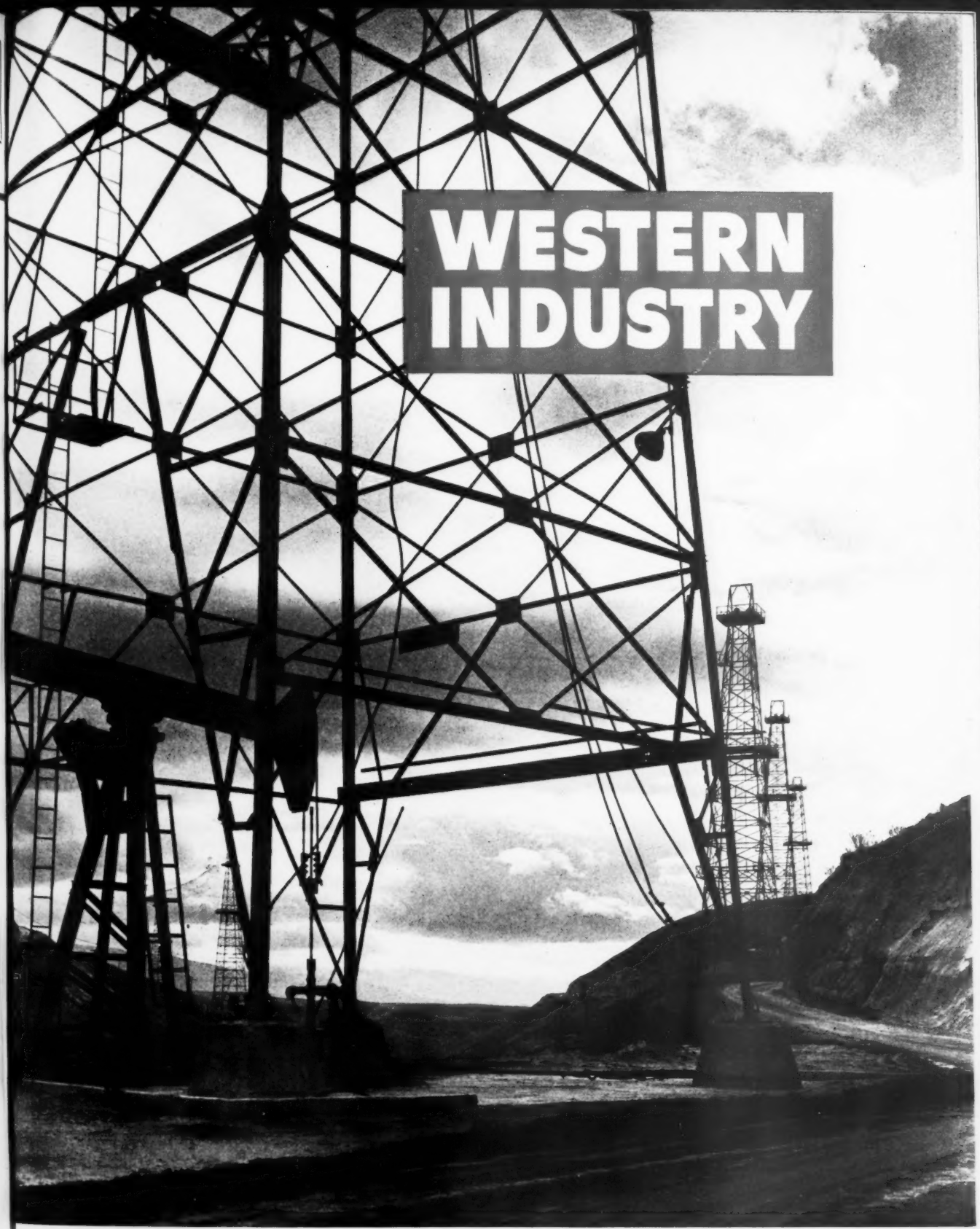

# WESTERN INDUSTRY

• Whenever there is hope of oil in the West, down goes a test hole. If successful, up goes a derrick. For details, see page 5.

*IN THIS ISSUE: West's Dynamic Processes Need Shaping; What to Think Over When Buying Mobile Refrigeration Units; Look Ahead, Lest Salesmen Duplicate Foremen Problem! A New Calling: Small Plant Management; Planning Storage for Mass Production; Production Techniques*

*Thirty-Five Cents* VOLUME XII NUMBER 12 *December, 1947*

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# DAY IN... DAY OUT

## Stockton General Depot keeps fork trucks ON THE GO with the help of G-E battery-charging equipment

Handling huge quantities of supplies quickly and easily is the main job of the Stockton General Depot, San Francisco, where a fleet of eight battery trucks bears the brunt of the load. Each truck works an eight-hour shift; then, on off-time, its 16 batteries are charged by a G-E *all-automatic* battery-charging unit, consisting of two 30-kw m-g sets and a battery-charging control cubicle.

**Dependable Charging Service is Insured**

All-automatic operation makes it possible for the battery man to service trucks quickly and efficiently. These features of G-E battery-charging equipment are designed-in to insure a complete charge and to promote long battery life:

1. Automatic charging and shut-down relieves operator of responsibility.
2. Protection from overload and from damage which could be caused by current reversal from battery to charging equipment.
3. Enclosed construction throughout for protection of operator and equipment.
4. Compact construction—permits location of the equipment where it can be used most conveniently.

**G-E Has a Complete Line of Battery-charging Equipment**

Whether you require single- or multiple-charging units, there's a G-E battery-charging unit ready to do the job. Ask your truck dealer or distributor for help in selecting the most suitable unit for your plant. Or call your nearest G-E office for complete details. *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

**AUTOMATIC BATTERY CHARGING EQUIPMENT**

750-282

**GENERAL ELECTRIC**

# KEEN

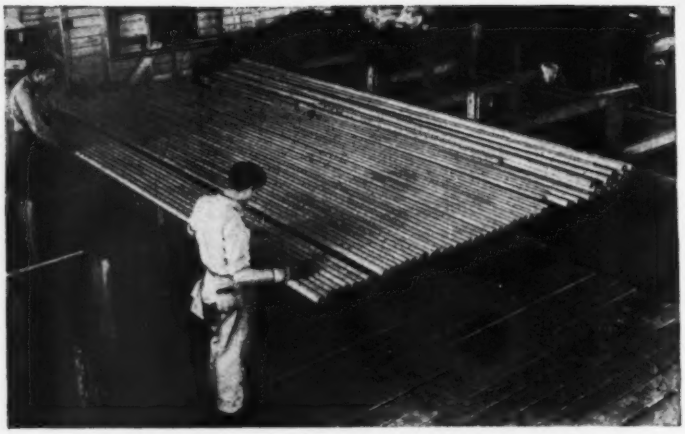
## TRAINED FOR *Quality*

Keen eyes trained for high quality standards are ever watchful at Pacific Tube Company. Our laboratory technicians, chemists and inspectors are greatly responsible for our coveted reputation as the West's only precision steel tube mill.

Physical and chemical tests assure our customers that their requirements and needs in steel tubing and bars have been met. Experienced inspectors further guarantee our customers smooth surfaces, close dimensional tolerances, correct lengths and straightness.

We invite you to visit our plant where you may see for yourself just how our Quality Control program functions.

**COLD DRAWN BAR STOCK – ½" TO 1-¾" DIAMETERS.**
**SEAMLESS STAINLESS TUBING - .010" TO 2" O.D.**
**WELDRAWN STAINLESS TUBING - .010" TO ⅝" O.D.**
**SEAMLESS ALLOY TUBING - .010" TO 2-½" O.D.**
**WELDED CARBON TUBING - ¾" TO 3" O.D.**
**SEAMLESS CARBON TUBING - .010" TO 2" O.D.**



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*This Month in*

# WESTERN INDUSTRY

VOLUME XII DECEMBER, 1947 NO. 12

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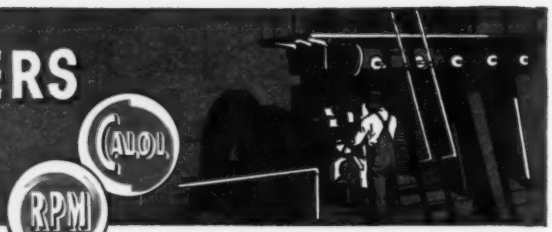
**Front Cover**

All over the West the search for oil goes on, to meet the ever-increasing demand resulting from the growth of population and industry. Scene shows Shell Oil Company wells in the Round Mountain field near Bakersfield, California. In flat country the new collapsible portable type derricks are coming into use.

# STANDARD ENGINEERS NOTEBOOK



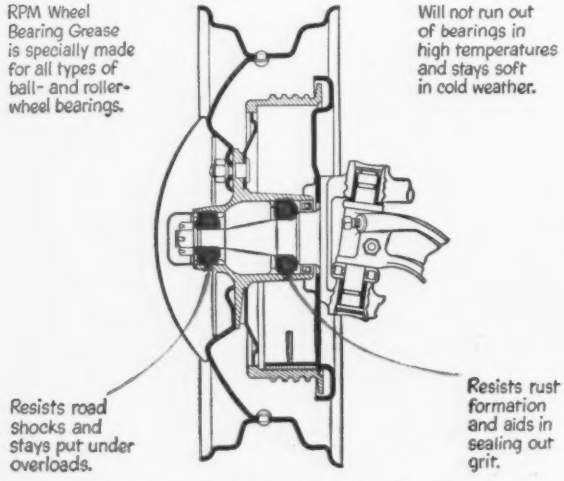

## Shock-resisting grease lengthens bearing life

To prevent extra wear and the necessity for replacing wheel bearings during the life of a vehicle, service them regularly with RPM Wheel Bearing Grease.

A short fibre lubricant, specially made for both ball, and roller wheel bearings, RPM Wheel Bearing Grease does not melt and throw out of bearings during hot operating conditions. It feeds slowly from bearing reservoirs and provides thorough lubrication for prolonged periods.

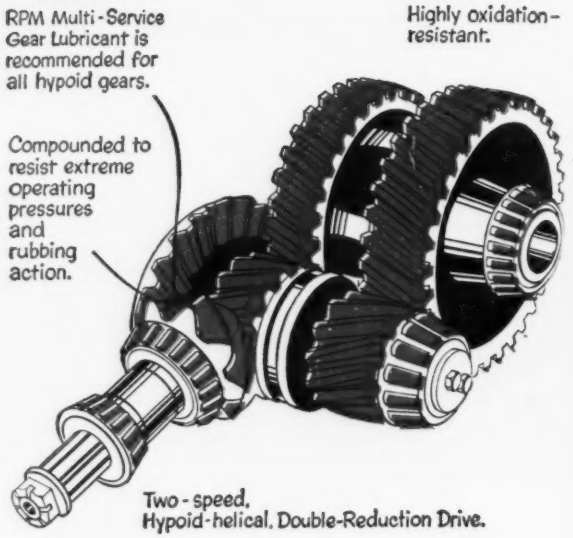
RPM Wheel Bearing Grease has the unusual ability of reducing the pounding of road shocks imposed on wheel bearings. It cushions the force of these shocks, minimizes metal fatigue and overheating and reduces vibration.

Extremely adhesive, RPM Wheel Bearing Grease helps maintain a seal around bearings against corrosive moisture. This seal also aids in keeping dust and grit out of bearings.


RPM Wheel Bearing Grease is specially made for all types of ball- and roller-wheel bearings.
Will not run out of bearings in high temperatures and stays soft in cold weather.
Resists road shocks and stays put under overloads.
Resists rust formation and aids in sealing out grit.

This drawing prepared with cooperation of Timken Roller Bearing Co

Trademarks, "Calol," "RPM," Reg. U. S. Pat. Off.


RPM Multi-Service Gear Lubricant is recommended for all hypoid gears.
Highly oxidation-resistant.
Compounded to resist extreme operating pressures and rubbing action.
Two-speed, Hypoid-helical, Double-Reduction Drive.

## New lubricant can be used in all type gears

The drive gears in automotive equipment operating under the most severe conditions are fully protected by newly-developed RPM Multi-Service Gear Lubricant. It resists the tremendous pressures and extreme temperatures encountered in hypoids as well as in heavily loaded conventional gears.

Special compounds in RPM Multi-Service Gear Lubricant react on tooth bearing surfaces and provide a safety coating. They also give the lubricant maximum resistance to foaming, better resistance to oxidation, and provide better protection from corrosion. The compounds are very stable in the blend and will not drop out of solution.

RPM Multi-Service Gear Lubricant is approved by the Timken Detroit Axle Co. and Buick Motor Division, General Motors Corp. for service use in hypoids, and the Army Ordnance Dept. as conforming to U. S. A. Specification 2-105-B. It is made in four grades: SAE 75 (for Alaska only), 80, 90 and 140.

Standard Fuel and Lubricant Engineers are always at your service. They'll gladly give you expert help — make your maintenance job easier. Call your local Standard Representative or write Standard of California, 225 Bush St., San Francisco 20, California

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*In planning a Materials Handling System*

**THERE'S NO SUBSTITUTE FOR EXPERIENCE**

## *Here's How* AT SPENCER & MORRIS, Inc.

### *Application Study*

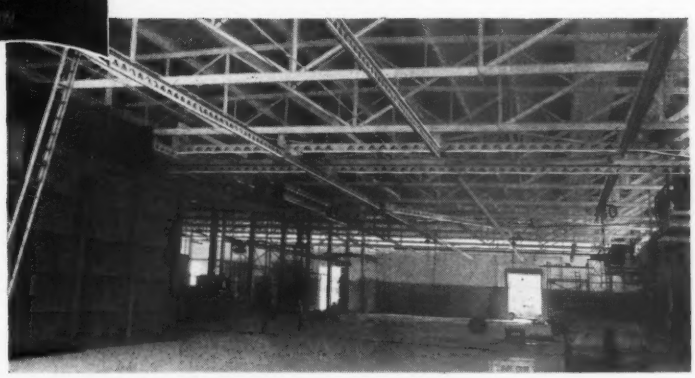
Upon completion of discussion of detailed production problems with the prospective user, the Sales Engineer presents the specific Materials Handling problems to our planning committee for study and suggestions. Only by the combined thinking of several thoroughly trained people, can the most practical system be designed to do the specific jobs.

### *Correct Engineering*

After receipt of the general information and recommendations from the planning committee, the engineering department prepares the detailed plans of the proposed Materials Handling installation and draws up the necessary specifications.

### *Precise Fabrication*

Skilled mechanics with modern tools and equipment then proceed with the fabrication in the shops of Spencer & Morris, Inc. Every step in the precise construction is under constant supervision of men with years of experience in this specialized branch of metal work.



### *Skilled Installation*

Thoroughly trained erection crews, all permanent Spencer & Morris employees, take care of all installations. This work is done with the thoroughness and despatch so important in these days of ever increasing production. After testing and final inspection the Materials Handling System is ready for work . . . to do the job specified.

**Call, write or wire for a Spencer & Morris trained sales engineer to call at your convenience and show you how modern overhead Materials Handling will cut costs and increase production.**

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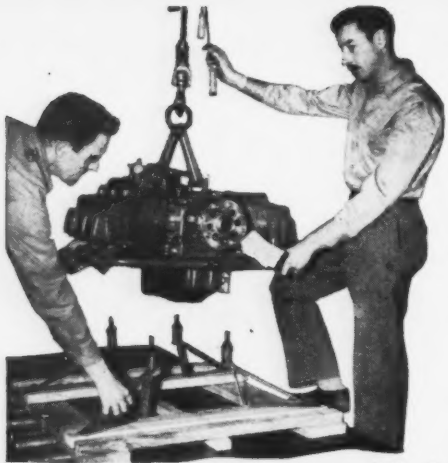


*Entire engine load is "floated" on carefully designed base and bracket to minimize jars and shocks. The engine does not touch crate at any point.*

**SHIPPED IN . . .**

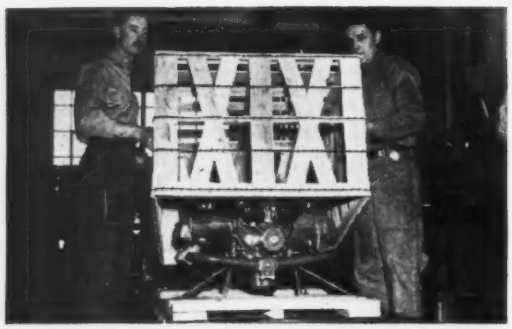
# WIREBOUNDS

**MORE ECONOMICALLY,**

**WITHOUT DAMAGE IN TRANSIT,**

**GO *AIRCOOLED MOTORS'***

# 400 lb. Precision Engines



*Wirebound wrap-around crate sides are folded into shape and assembled with crate top, slipped over engine and secured to base.*

*Engines are then stacked four-high in warehouse and are tiered two-high when loaded into trucks.*

Wirebound
**BOXES & CRATES**

When Aircooled Motors, Inc. of Syracuse New York switched to Wirebounds for the shipment of their high-precision, high-value airplane engines the results obtained brought improvements and reduced costs in nearly every phase of the shipping operation.

Wirebounds greatly reduced initial container costs, lowered freight costs substantially, simplified and quickened packing and handling for shipping room economy—and the resiliency of Wirebounds, resulting from the time-tested combination of steel wire and thinner wood, gave *Aircooled* a record of 3000 shipments in 15 months without a single instance of damage in transit due to container failure!

Wirebounds can bring you the same kind of results Aircooled Motors has enjoyed. Send the coupon below for further information . . . or better still, for a Wirebound Sales Engineer who will study your requirements, then design, test and submit samples of Wirebounds created specifically to carry *your* products safely, efficiently and at lower cost.

**MAIL THIS COUPON TODAY!**

**WIREBOUND BOX MFG. ASSN.**

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PRODUCT_____

"...AND

# Battery Powered

## TRUCKS, OF COURSE . . . FOR LOWEST-COST MATERIAL HANDLING."

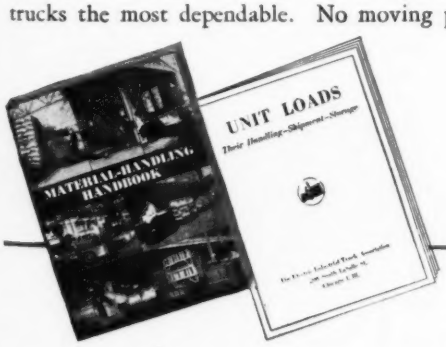
IN new plants—or old, planning for a smooth, dependable flow of materials is one big step toward greater profits.

The step is longest, surest, when industrial trucking applications are assigned to *battery-powered* equipment with its unequalled ability to keep pace with rigorous schedules and *at the lowest cost per ton handled.*

Actually, "lowest-cost-per-ton-handled" is a direct dividend from the following factors which make electric trucks the most dependable. No moving parts in the battery, *one* in the motor, hence negligible maintenance cost. Down-time with electric trucks is so infrequent that standby equipment is unnecessary in many plants. And electric power—central station power—costs 60% less.

We believe that such performance and savings, peculiar to battery-powered industrial trucks, are more important to you than low first cost.

Over 90% of the electric industrial trucks sold in the past twenty years are still in constant, active service.




**THE ELECTRIC INDUSTRIAL TRUCK ASSOCIATION**

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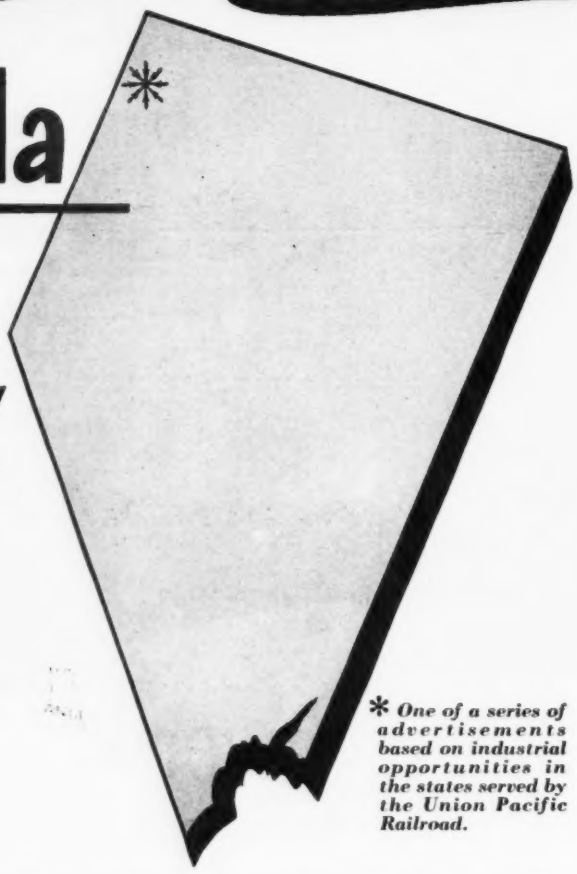
**SEND FOR THESE FREE MANUALS**—The MATERIAL-HANDLING HANDBOOK and UNIT LOADS have shown thousands of leaders in industry how to plan for the BIG savings in solving handling problems. Write for your copies.

UNION PACIFIC

TREASURE MAP OF INDUSTRY

# Nevada*



- *Variety of metals, minerals and ores of value to industry*
- *Power and irrigation projects*
- *Good living conditions*
- *Colorful scenic attractions*
- *Excellent rail transportation*

* *One of a series of advertisements based on industrial opportunities in the states served by the Union Pacific Railroad.*

Manufacturers, packers and processors will find Nevada a storehouse of raw materials. There are deposits of copper, silver, gold, zinc, lead and uranium. Mineral ores and minerals include tungsten, manganese and antimony ore, magnesite, gypsum, sulphur, borax and vanadium. Building stone and marble also are available.

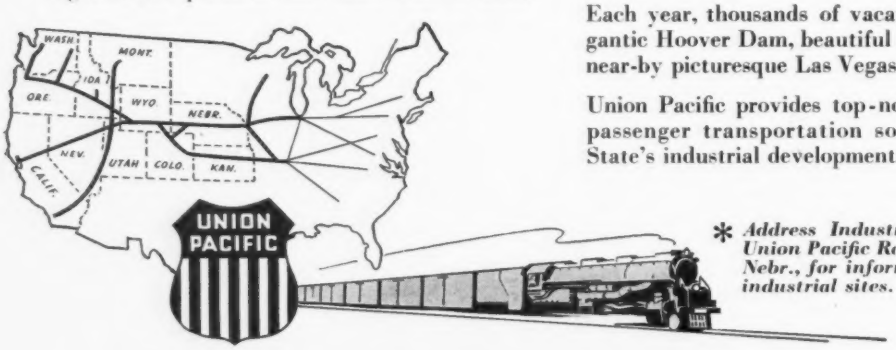
Cattle, sheep and poultry raising are expanding agricultural pursuits and there also is some production of a variety of grains, vegetables and fruits.

Irrigation and power are supplied by several Federal projects including famous Hoover Dam.

Nevada's healthful climate, excellent educational system, and a variety of scenic attractions contribute to the advantages of living in this western area.

Each year, thousands of vacationists visit gigantic Hoover Dam, beautiful Lake Mead and near-by picturesque Las Vegas.

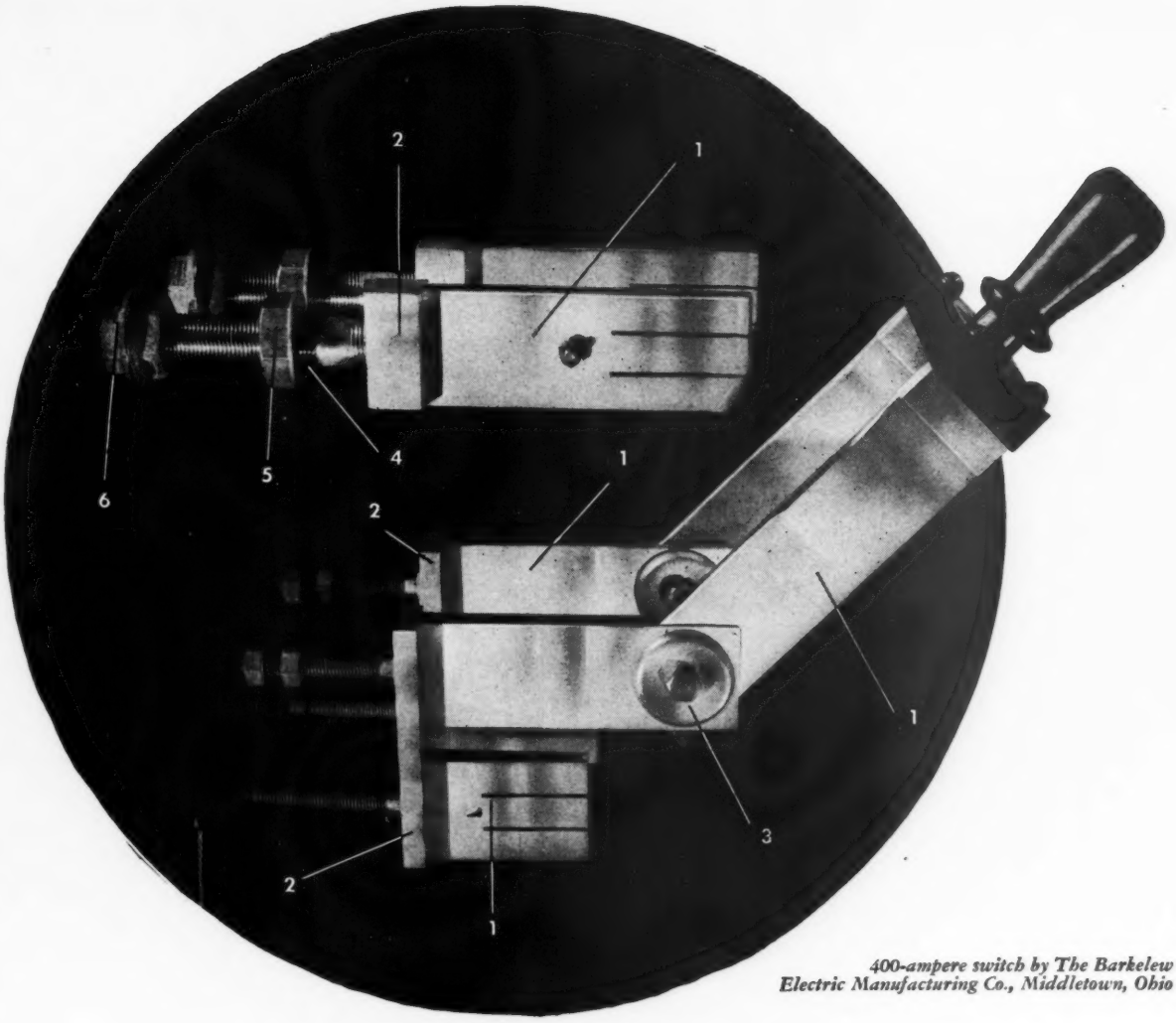
Union Pacific provides top-notch freight and passenger transportation so essential to a State's industrial development.




* *Address Industrial Department, Union Pacific Railroad, Omaha 2, Nebr., for information regarding industrial sites.*

**UNION PACIFIC RAILROAD**

*THE STRATEGIC MIDDLE ROUTE*




*400-ampere switch by The Barkelew Electric Manufacturing Co., Middletown, Ohio*

# WIDE VARIETY OF REVERE METALS PERMITS EXACT SPECIFICATION TO MEET CONDITIONS OF USE

**Note the number of different Revere Metals used by Barkelew in this switch, in order to assure low losses, reliability, accuracy, long life and economical manufacture.**

1. *Electrolytic Copper.* For full conductivity.
2. *Free-Cutting Copper.* For quick, economical, trouble-free machining; in this case, producing sharp, clean, accurate slots and tapped holes in the copper base blocks. Free-cutting copper is rated in excess of 70% machinability of free-cutting brass, depending on type of operation.
3. *Herculoy.* Has the strength of mild steel, the corrosion-resistance of copper. The Herculoy washers in this switch assure permanence of pressure.
4. *Brass.* Washers, stamped out of sheet.
5. *Free-Cutting Brass.* Nuts, machined from free-cutting rod.
6. *Cast Electrolytic Copper.* For nuts not presenting machining problems.

Materials were very carefully chosen in designing this switch. For example, the hinge block for the high clip must have two slots milled in it to receive the clip leaves; Revere Free-Cutting Copper was selected for its superior machining characteristics. Slots in the lower hinge blocks are sawed all the way through, and here Revere Hard Drawn Electrolytic Copper is suitable.

Revere will gladly cooperate with you in working out the most advantageous application of metals to your products. Revere Metals are: Copper and Copper Alloys, Aluminum and Magnesium Alloys, Electric Welded Steel Tube.

**REVERE**

**COPPER AND BRASS INCORPORATED**

*Founded by Paul Revere in 1801*

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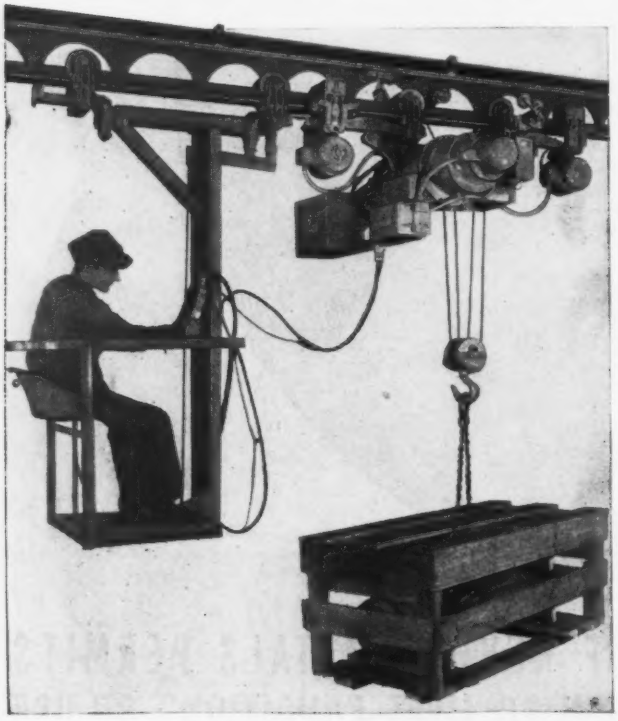
*Pacific Coast District Sales Offices in San Francisco, Seattle, Los Angeles*

# HOIST CARRIER OPERATED FROM FLOOR OR PLATFORM

Sometimes the need arises for a Tramrail unit that can be operated from either the floor or platform. The carrier illustrated, was designed to meet such a requirement.

For distant runs the operator takes the platform position; for local handling such as unloading trucks, he controls the unit from the floor.

The carrier is also advantageous where considerable material must be moved during some periods and relatively little during others. For instance, during the hours of the day shift when activity is high, two men might be employed at materials handling, one on the carrier platform and the other on the floor, hooking and unhooking the loads. During the other shifts when activity is light, all handling can be done with the Tramrail unit by one man on the floor.



• The unit illustrated is propelled by two motors and has an electric hoist of 4000 pound capacity. A foot-operated under-rail shoe brake quickly stops or holds the unit in place. Heavier capacity units available.

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**CLEVELAND TRAMRAIL DIVISION**
THE CLEVELAND CRANE & ENGINEERING CO.
8810 East 284th Street WICKLIFFE, OHIO.

**CLEVELAND TRAMRAIL**
**OVERHEAD MATERIALS HANDLING EQUIPMENT**

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WATER-LUBRICATED:
OPEN IMPELLERS.
OIL LUBRICATED:
CLOSED IMPELLERS.
You can take your choice
at the "BIG STORE"...
The "Big Store" is an American institution, where a man can get a better buy from a broader choice. That's why most buyers go to a Fairbanks-Morse-Pomona dealer for their vertical turbine pumps.
They know that these dealers are not restricted in their recommendations. They know that they'll get impartial help in buying the right pump.
For instance, Fairbanks-Morse offers a choice of oil or water lubrication, open or closed impellers. This is greater surety of getting skilled, unrestricted service in obtaining the pump that is most suited to your particular pumping work.
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Take advantage of the extra value in trading from the "Big Store in the pump industry"!
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# Explosive drives studs

# into structural steel

# or concrete

Driving a rivet-stud through a $\frac{3}{8}$-inch section of solid steel, with Drive-it tool. Tool and rivets are manufactured by Powder-Power Tool Corp., Portland, Oregon.

No drilling is needed for these rivet-studs. They make their own holes.

This new Drive-it tool fires Bethlehem alloy steel studs into solid structural steel or concrete in much the manner that a gun fires an armor-piercing shell. A small explosive cartridge furnishes a 25-ton blow to drive the rivet-studs the required depth. This rapid, permanent and safe method of fastening is used to advantage in securing sliding sheets to structural members or anchoring light machinery to floors.

The rivet-studs driven by this gun presented an important metallurgical problem. They had to be hard enough to penetrate thin steel or concrete without fracturing. At the same time they had to have sufficient ductility to seize the material and to resist fracture under vibrating loads. After considerable testing, a Bethlehem Alloy Steel was found to have the properties needed for this job. This is another of the many interesting western industrial developments in which Bethlehem Alloy Steels have played a major part.

Perhaps you are designing a new product or redesigning an old one that calls for the use of steel. Bethlehem Pacific can help you in two ways: we can offer you sound metallurgical advice; and we can supply high-quality alloy steels in the complete AISI range.

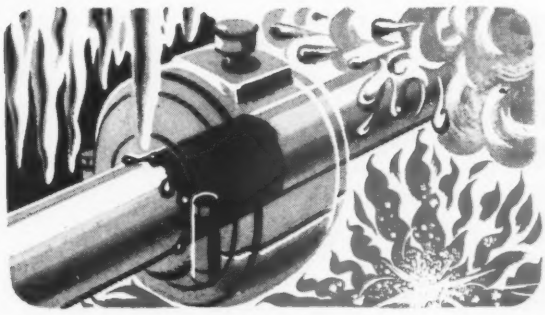
**BETHLEHEM PACIFIC COAST STEEL CORPORATION**

*Sales Offices:*
San Francisco, Los Angeles, Portland, Seattle, Honolulu

**BETHLEHEM PACIFIC**

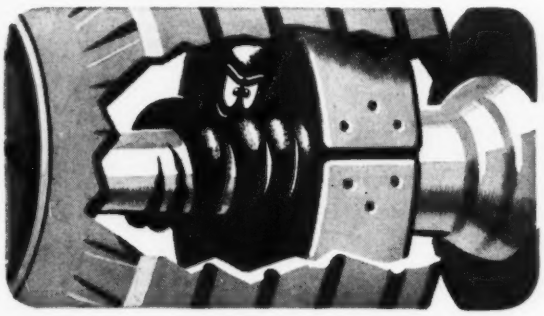
★ BETHLEHEM STEEL ★

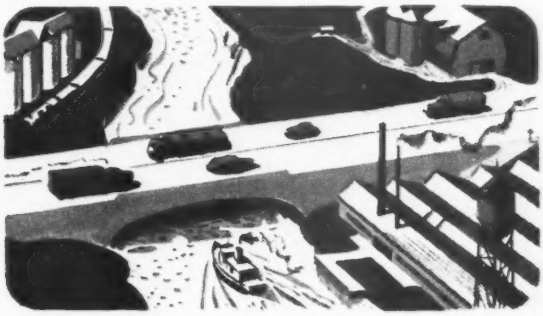
# THIS NEW ALL-PURPOSE GREASE SIMPLIFIES ALL YOUR LUBRICATION!



**1.** UNOBA—the sensational new grease developed by Union Oil Company—is the first all-purpose lubricant in history that resists both heat and water! With Unoba, lubrication is greatly simplified, for this *one* grease performs jobs that formerly required *many* different types, grades and brands of greases!

**2.** UNOBA is a barium base grease with exceptional heatproof, waterproof qualities. Boiling water or dry heat won't cut its tenacious film. UNOBA will give effective lubrication for trucks or equipment at temperatures much below freezing. And at temperatures up to 300°F. it still protects your equipment.





**3.** In addition to these qualities, UNOBA has an unusual adhesiveness to metal, giving maximum protection against rust and corrosion of parts. It maintains excellent grease structure under severe mechanical working and does not deteriorate in storage even over long periods.

**4.** Today UNOBA is performing hundreds of different jobs in all branches of industry—in factories, mines and mills, and on construction jobs and farms. Why not simplify your lubrication with this unique *all-purpose* grease that protects against rust, prevents excessive wear and prolongs equipment life?

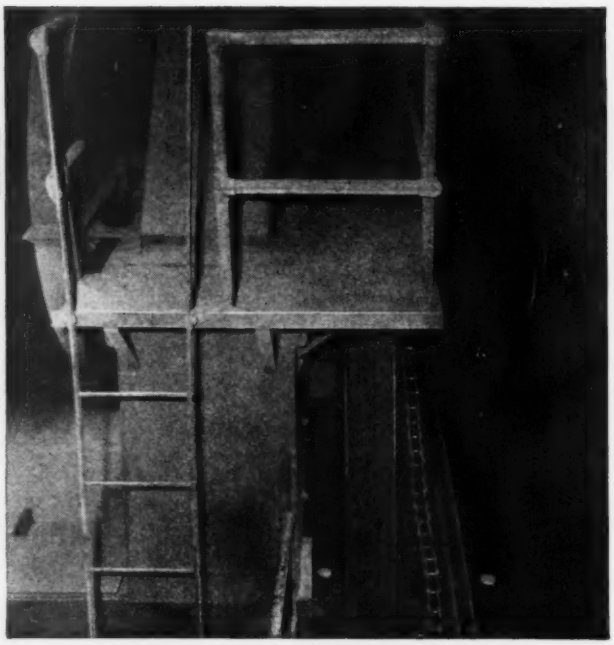
**UNOBA**

**For additional information phone your local Union Oil Representative, or wire Sales Department, Union Oil Company, Los Angeles 14, California.**

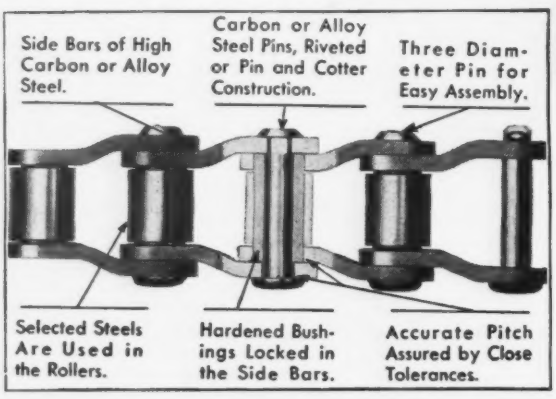
ANOTHER **UNION OIL** SUCCESS-TESTED PRODUCT

# DUST doesn't stop this drive!

**① WHEN IT COMES** to delivering dependable service under tough operating conditions, rugged Rex Chabelco Chain is in a class by itself. This standard Chabelco Steel Chain is designed to transmit positive power under heavy loads, severe shocks and in dusty or gritty locations. They keep right on going long after the ordinary chain is out of service.



**② AN EXAMPLE** of Chabelco's ability to take it is this drive on this bucket elevator. Properly selected and applied with the assistance of the Rex Man, the drive has been trouble free despite the extremely dusty operating conditions, as evidenced by the dust on top of the platform. It's typical of the many tough drive problems that are right down the alley for Chabelco. Incidentally, Rex Elevator Chain is also used to carry the buckets in the elevator.


Side Bars of High Carbon or Alloy Steel.
Carbon or Alloy Steel Pins, Riveted or Pin and Cotter Construction.
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Selected Steels Are Used in the Rollers.
Hardened Bushings Locked in the Side Bars.
Accurate Pitch Assured by Close Tolerances.

**③ HERE'S WHY CHABELCO** is so tough. Take a good look at this cross-section of a Chabelco link and note the many outstanding features. These design factors plus well-engineered applications are the reasons for Chabelco's ability to outlast ordinary chains. For all the facts and for application assistance, see your Rex Man or write direct to Chain Belt Company, 1723 West Bruce Street, Milwaukee 4, Wisconsin.

**REX CHAIN BELTS**

**CHAIN BELT COMPANY of Milwaukee**

# EXTRA SAFETY in portable snagging

Ever alert to the safety needs of resinoid portable snagging, Bay State produces cup wheels with "built in" safety features. The especially designed nut is molded in the wheel by a patented Bay State manufacturing process. (Pat. No. 2,172,243) . . . a safety precaution against the nut breaking loose. A reinforcing ring inserted in the base of the larger sizes is an additional safety feature.

In addition to portable snagging wheels, Bay State is equipped to supply all sizes and shapes of vitrified and resinoid bonded snagging wheels, discs and mounted points, as well as resinoid, rubber and Bayflex cutting off wheels.

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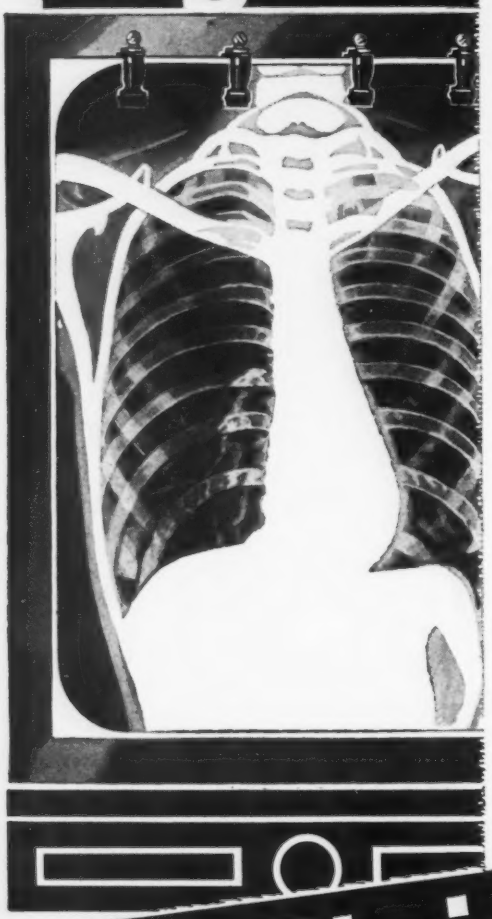
# Danger signal!



**DO YOU KNOW . . . that in America today there are approximately 250,000 people with "unknown cases" of tuberculosis?**

**. . . that these "unknown cases" are a major reason why TB still kills more Americans between 15 and 44 than any other disease — as they unwittingly spread infection, maybe to you, yourself, or a loved one?**

**. . . that the surest means of discovering TB early, before it spreads, is the chest X-ray?**

**. . . that your Christmas Seal money buys X-ray units and makes possible mass examinations?**

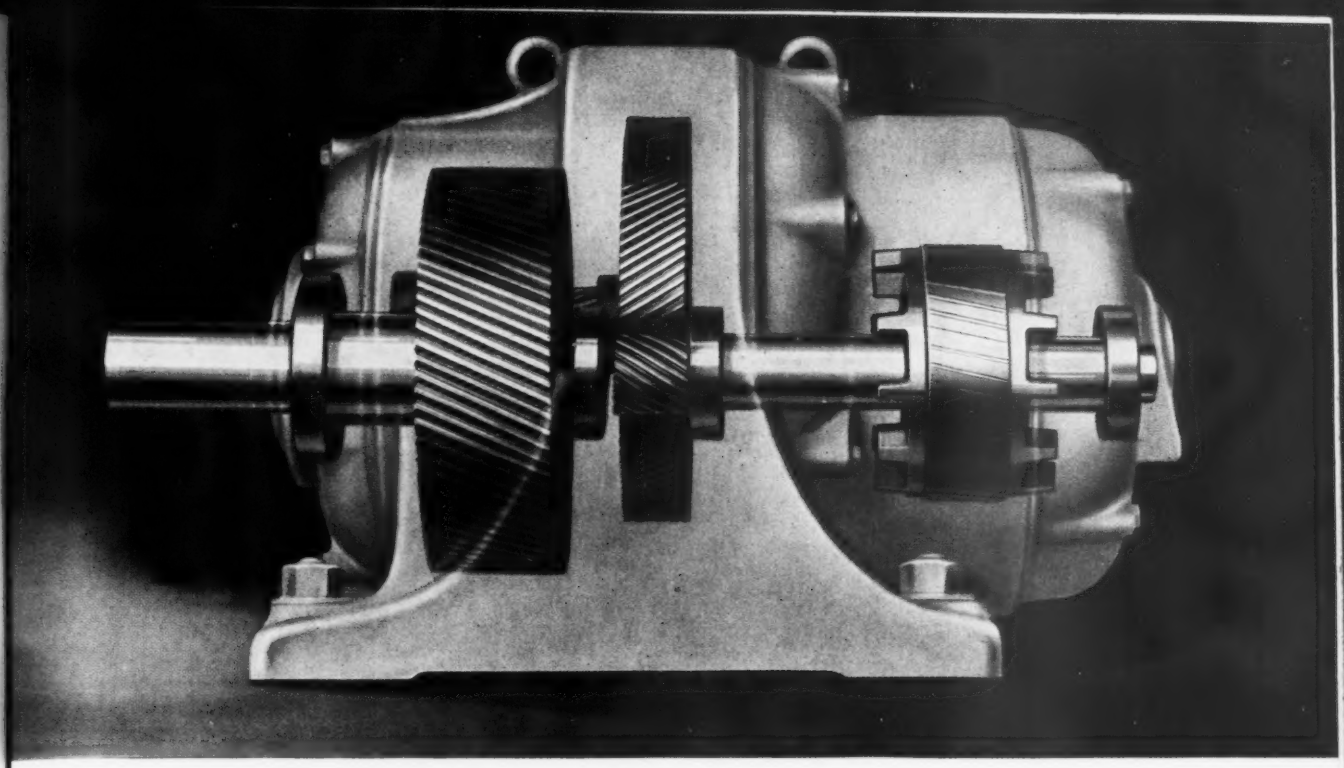
**PLEASE, send in your contribution today.**

# Buy Christmas Seals

Because of the importance of the above message, this space has been contributed by

**WESTERN INDUSTRY**

503 MARKET STREET SAN FRANCISCO, CALIFORNIA



*Type GD—U. S. Syncrogear Motor, Double or Triple Reduction*

## U. S. SYNCROGEAR MOTOR OFFERS THESE PRINCIPAL FEATURES:

### DEPENDABILITY

Rugged pyramidal base withstands external stresses. Hardened gears are designed for high safety factor. Lubrication is positive.

### ECONOMICAL OPERATION

Helical gears and full anti-friction bearings contribute to high efficiency. No rubbing seals to wear and cause leakage.

### LONG LIFE

Gears are hardened to 45/50 Rockwell C. All motor windings are asbestos protected. Normalized castings maintain accuracy.

### COMPACTNESS

Integral design eliminates couplings. High speed motor for efficient power conversion. Solid shank pinion permits greater ratio.

### QUIET OPERATION

Simple helical gear trains, precision finished, are permanently held in alignment. Low pitch line velocities are used.

### MANY TYPES AND SIZES

Single, double, and triple reductions are available in sizes of ¼ to 30 h.p. and standard AGMA speeds of 10 to 10,000 RPM.

### OUTSTANDING APPEARANCE

Proportional, well-balanced pyramidal base design enhances appearance of driven equipment. Smooth contours make it easily cleaned.

### SERVICE FACILITIES

Standard replacement parts are maintained in stock. Branch offices in all principal cities render service when needed.

**The QUALITY LINE of Power**

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| VARIDRIVE MOTORS | *for infinite speeds* |
| SYNCROGEAR MOTORS | *for multiplied power* |
| VERTICLOSED MOTORS | *for deep well pumping* |
| UNICLOSED MOTORS | *Horizontal and Vertical* |
| UNIMOUNT MOTORS | *Horizontal and Vertical* |
| TOTALLY-ENCLOSED MOTORS | *for hazardous services* |

AUTOSTART *Buffers*

**U.S. ELECTRICAL MOTORS Inc.**

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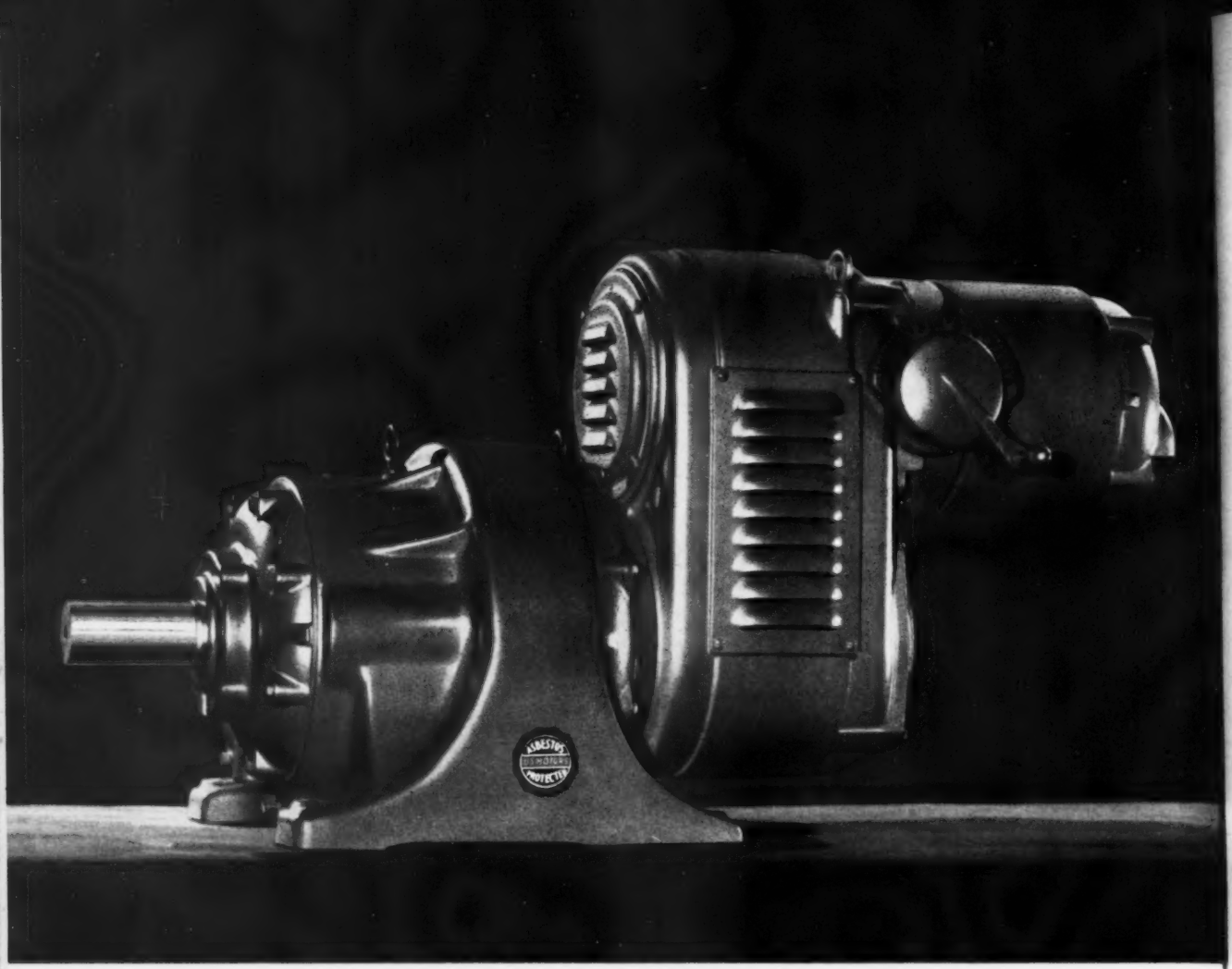
AUTOSTART ACTION



*Type VEV-GD—Double Reduction Combination Varidrive-Syncrogear*

## THE GEARED MOTOR WITH PYRAMIDAL STABILITY

Structural rigidity is of primary importance in a geared electric motor. *The U. S. Syncrogear* motor consists of a heavy, one-piece *pyramidal* base casing, within which is mounted the gear trains. Model VEV-GD, illustrated above, shows the Syncrogear in combination with a U. S. Varidrive motor, to obtain very low but *variable* speeds. You can also obtain the Syncrogear with constant speed motors, as shown on the opposite side. In the Syncrogear, electrical design is coordinated to give optimum overall performance. The unit is most compact, occupying little more space than an ordinary motor. It incorporates the basic U. S. Motor features including asbestos protection, normalized castings, solid cast aluminum rotor and Lubriflush lubrication. For ever-dependable geared power, install the U. S. Syncrogear.

*New illustrated engineering Bulletin upon request.*

## U. S. SYNCROGEAR MOTOR

# In Our Mail Box

### Attention: NAM, C. of C.

*Editor, Western Industry:*

I am quite in accord with Dr. Mahoney's views as expressed in your editorial in the October issue.

My only suggestion is that you bring it to the attention of Mr. James Mussatti, manager of the State Chamber of Commerce, and would say also to the Los Angeles Chamber of Commerce. I take it, it has already been brought to the attention of the NAM and of the U. S. Chamber of Commerce. If not, it should be.

FREDERICK J. KOSTER, President
California Barrel Co., Ltd.
San Francisco, California.

*Editor, Western Industry:*

In connection with the editorial covering the views of Dr. J. R. Mahoney on a problem that is one of the most important to us here in the West, I was very much interested to note recently, when members of the Public Works Committee of the House of Representatives were in the area, that their chairman, George Dondero, had never been in the San Francisco Bay Area before. I think it is incumbent upon all of us to do everything possible to educate people in places of responsibility with respect to the problems we have here, together with suggested recommendations and solutions to those problems.

FRANK E. MARSH
Executive Vice-president
San Francisco Bay Area Council, Inc.

### Governor Appreciative

*Editor, Western Industry:*

I am very appreciative of your reporting the initial meeting of our Resources Development Committee. ("Where Do We Go From Here Is Big Colorado Problem," *Western Industry*, November, 1947.) I also thank you for suggesting the several areas not mentioned in this initial discussion. You may be sure that serious consideration will be given these items.

I am also sure that Dr. Stearns is appreciative of your comment.

LEE KNOUS, Governor
The State of Colorado.

### Big-Hearted

*Editor, Western Industry:*

I am preparing a history of the Government's wartime rubber program for the Reconstruction Finance Corporation. In doing so I ran across a chart which I believe was published by you about February, 1944.

The enclosed chart, "California Synthetic Rubber Project," was copied from your original, after some modifications were made.

Insofar as the history may be published, would you kindly grant the RFC permission to use the chart in that history. The credit line would be used on the chart.

B. J. O'CALLAGHAN
Reconstruction Finance Corp.
Washington 25, D, C.

Editor's Note: Mr. O'Callaghan is being unnecessarily big-hearted. RFC wishes to adopt its own child. The chart to which he refers was furnished us by the California Synthetic Rubber Project, a subsidiary of RFC, and *Western Industry* published it in June, 1944.

### Hiring Procedures

*Editor, Western Industry:*

Mr. McMurry's article seems to be an excellent description of adequate hiring procedures; however, too few employers understand the techniques or the necessity for hiring employees

# EDITORIAL COMMENT

## Small Fires Can Spread

BELIEVE it or not, a labor union attorney representing an organization of sufficient size to justify intelligent leadership, recently asserted publicly, in all seriousness, that the Taft-Hartley Act was not the outcome of a nation-wide demand, but the result of a plot to destroy labor hatched at Palm Springs.

Pressed for details, he vaguely identified the brewing of this conspiracy as a gathering of some manufacturers association, and seemed satisfied when it was suggested that he perhaps was referring to the annual industrial relations conference of the NAM and the Merchants and Manufacturers Association of Los Angeles.

As almost anyone in the ranks of management well knows, this joint educational session at Palm Springs is about as far from being a diabolical plot as the moon is from being constituted of green cheese. To be sure, equally silly things have been voiced by management in their time about the Wagner Act, but that has no bearing on the present case.

Such absurdities as this "Palm Springs plot" could be disregarded but for the fact that when they are uttered by supposedly responsible and intelligent labor leaders as gospel truth they are bound to be believed by entirely too many people in the rank and file of labor. Although management perforce will have to let many of these fairy tales evaporate of themselves, nevertheless this is only one of many strong indications that management should not sit still and permit such misrepresentations to destroy public confidence in the Taft-Hartley Act.

The men who sponsored and voted for this measure did so in response to a tremendous ground swell from the entire nation in favor of readjusting the inequalities caused by the Wagner Act itself and by the extremes to which the labor movement had gone. Now, if management simply lays down on the job, in some cases admitting weakness by by-passing the new law, and in others failing to make vigorous protests against misrepresentation of the purpose and provisions of the Taft-Hartley Act, what will the politicians and lawmakers who put it through Congress think when labor demands that the alleged "slave bill" be modified or repealed? Whether these politicians and lawmakers say it out loud or not, they will inevitably think, "That's the last time we ever stick our necks out for you people." And they will be dead right.

Incidentally, why shouldn't the NAM and M&M make it a practice to invite one or more representatives of labor to attend the annual Palm Springs industrial relations conference? Quite likely the invitation would not be accepted, but it would constitute one more proof that management has nothing to hide.

## Fulfilling Our Trusteeship

ADMIRAL LOUIS DENFELD, who is High Commissioner of the Trust Territory of the Pacific Islands in addition to being the top brass for the Navy in the Pacific, says the Navy's civil administration of the area under United Nations trusteeship keeps ever in mind that the natives shall not be exploited, that their lands will be retained for them and that other peoples of the world outside will not come in and take from them what they should have. Furthermore, specific training for the job and understanding of the area and people is a prerequisite for the administrators.

That's a pretty good guarantee against "American imperialism" creeping in. But no iron curtain, ocean wave or legal document has ever kept American ideas and ideals, education for all, freedom of person and opportunity for all, justice for all, from spreading. Not because they are deliberately planted, but because they take root of themselves.

# He pulls production DOWN!

INADEQUATE WIRING, the industrial jinx, upsets the best of calculations—the most thorough planning.

Production quotas are a fiction, the most modern machines are inefficient, the best of workmen are frustrated when overtaxed, over-extended obsolete wiring can pull down plant efficiency 25 percent* or more.

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CHARLES H. BROADED
Supervisor, Foreman Training
Los Angeles Refinery
Union Oil Company
Wilmington, California.

### Share the Risks

*Editor, Western Industry:*

I was much interested in the fourth and final article contributed to your magazine by L. C. Disser of the Ford Motor Company. It would appear to me that Mr. Disser has just about covered the subject, leaving little more to be said. One thing he says under the heading "Develop an Attitude" is very true. "A prospective supplier cannot hope to get into the automotive parts manufacturing business on a hand-to-mouth economy. He must be willing to share some of the risks as an investment in the future of this new West Coast business." My experience of the past years has made me recognize that fact and to deal with it accordingly.

Education in any line of endeavor never ends, and I am quite certain these past few years have taught all manufacturers a great deal about "volume production at a scanty profit."

JOHN B. RAUEN, President
U. S. Spring & Bumper Co.
Los Angeles 54, California.

### Red-Face Department

*Editor, Western Industry:*

We were pleased to note in your October issue the announcement concerning the addition of Mr. John Riches to our staff. You may have, perhaps, already noticed it, but we want to call your attention to the fact that this announcement, as well as the one involving Mr. K. W. Sawyer, are both Oregon items but were placed in the Washington section.

This issue was of interest to us in a number of respects, particularly the article entitled "Tips For Prospective Auto Parts Suppliers." We feel that our organization can be of distinct help to local manufacturers in meeting specifications and getting that type of business.

DAVID B. CHARLTON
Metallurgical Engineers, Inc.
Portland, Oregon.

### Incentive System

*Editor, Western Industry:*

Regarding the article on the incentive pay system in the October issue, we have long been interested in this plan and have presented certain phases of it to the union with which we have a contract. Naturally, they had an adverse reaction to the same, but we find a marked interest amongst most of our employees.

I am fully aware of the fact that to establish such a system requires appreciable study and certainly the required amount of engineering. However, I have seen the system work in some areas and believe that in due time we will all give it very serious consideration.

B. C. HARTUNG, Personnel Mgr.
Vaughn Millwork Company
Reno, Nevada.

### Carbon Dioxide Plant

*Editor, Western Industry:*

Regarding your recent article on a carbon dioxide plant we are constructing in Denver (Denver Regional Review, October, 1947), our customer has temporarily given up construction of the plant at Springer, N. Mex., awaiting the development of additional drilling for the naturally occurring carbon dioxide.

We are proceeding rapidly, however, with the construction of the plant in Denver and

*Photo — Courtesy Consolidated Vultee Aircraft Company*

**STANDARD CONVEYOR COMPANY is able, through long experience, to specify and build for a diversity of handling needs . . .**

On your next conveyor need — large or small, a section, a system, a portable conveying or piling unit—check with Standard, builders of an unusually wide variety of conveying equipment: power and gravity conveyors in belt, roller, chain, slat and push-bar types, portable units, spiral chutes, pneumatic tube systems.

The range and versatility of Standard Conveyor equipment is the result of nearly 40 years of close contact with inside-the-plant transportation—in plants large and small, making products as widely diverse as steel or cosmetics. The benefit of this experience is available to you, without obligation.

The counsel of Standard Conveyor engineers is valuable in deciding on the right kind of conveying equipment to "Deliver the goods" faster—at lower cost. *Write for comprehensive reference book—"Conveyors by Standard"—Catalog No. WI-127.*

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**BOOTHS 508 & 607**
**2ND MATERIALS HANDLING EXPOSITION**
**CLEVELAND JANUARY 12-16, 1948**

1948
A year of promise
WITH the arrival of another Holiday Season, we find ourselves looking forward to 1948 as—A Year of Promise. This good feeling comes from the knowledge that the steel industry is already engaged in the greatest expansion program in its history.
The benefits of increased supply from added producing facilities will naturally be gradual, but we go into 1948 fully expecting to do a better job of taking care of your steel requirements.
We have already improved our facilities for service by erecting new modern warehouses in Cleveland and St. Louis. We have also opened a new warehouse in Los Angeles which will go a long way toward supplying the needs of steel users on the West Coast. And we expect to make other improvements and additions to our service facilities during 1948, so that our name will continue to be a "Symbol of Service" to steel users.
Meanwhile, we extend to you our cordial best wishes for a happy Holiday Season and a successful, prosperous New Year.
UNITED STATES STEEL SUPPLY COMPANY
BALTIMORE · BOSTON · CHICAGO · CLEVELAND
LOS ANGELES · MILWAUKEE · NEWARK
PITTSBURGH · ST. LOUIS · TWIN CITY (St. Paul)
UNITED STATES STEEL SUPPLY COMPANY
USS
STEELS
SERVICE
UNITED STATES STEEL

hope to place it in operation by May 1, 1948. Our customer is the Carb-Ice Corporation of Denver, Colo., and is formed of men who have been in the sale and distribution of dry ice and carbon dioxide products for some time.

We hope that this industry will continue to grow and we shall be pleased to send you additional information regarding future developments. We are designing the plant with the most recent engineering developments, particularly with regard to thermal efficiency and automatic control.

M. A. STAPP
Stapp Engineering Co.
Denver, Colorado.

### Materials Handling

*Editor, Western Industry:*

We have observed *Western Industry* for the past several months, and particularly appreciated your articles on materials handling.

GLEN M. EDE
Transitier Truck Co.
Portland 1, Oregon.

### Anybody Interested?

*Editor, Western Industry:*

I am vice-president of the Mt. Gunnison Fuel Co., who own 3,800 acres of land in Gunnison County in this state. Of this tract 3,400 acres carry 14 to 16 veins of coal, eight of them over three feet. One big one, No. 10, is 12 to 18 feet of clean coal. The title is clear, based on old coal land patents which are free of all if's and and's.

Most of our original heads are dead, the younger element has plenty of money and doesn't want to sell, but I have at last got them to consent to lease if a strong outfit wants it.

It is six miles from Paonia which is on the standard gauge railroad of the Denver and Rio Grande.

I notice ships calling at Frisco are again using coal. Are your people in Northern California interested?

SAMUEL G. PORTER
Grand Junction, Colorado.

### Repeat Performance

*Editor, Western Industry:*

I am wondering if you would give us permission to reprint the article, "Credit Union's part in boosting efficiency" (*Western Industry*, June, 1947), in suitable form and giving credit to your publication.

WILLIAM B. TENNEY
Ass't Director of Organization
Credit Union National Ass'n, Inc.
Madison 1, Wisconsin.

*Editor, Western Industry:*

We would appreciate your forwarding to this office tear sheets of the following articles from your September issue: "Licking Production Bugs Before They Bite," by C. Lloyd Thorpe; "How Plant Policies Affect Materials Handling Costs," by Neil Drake.

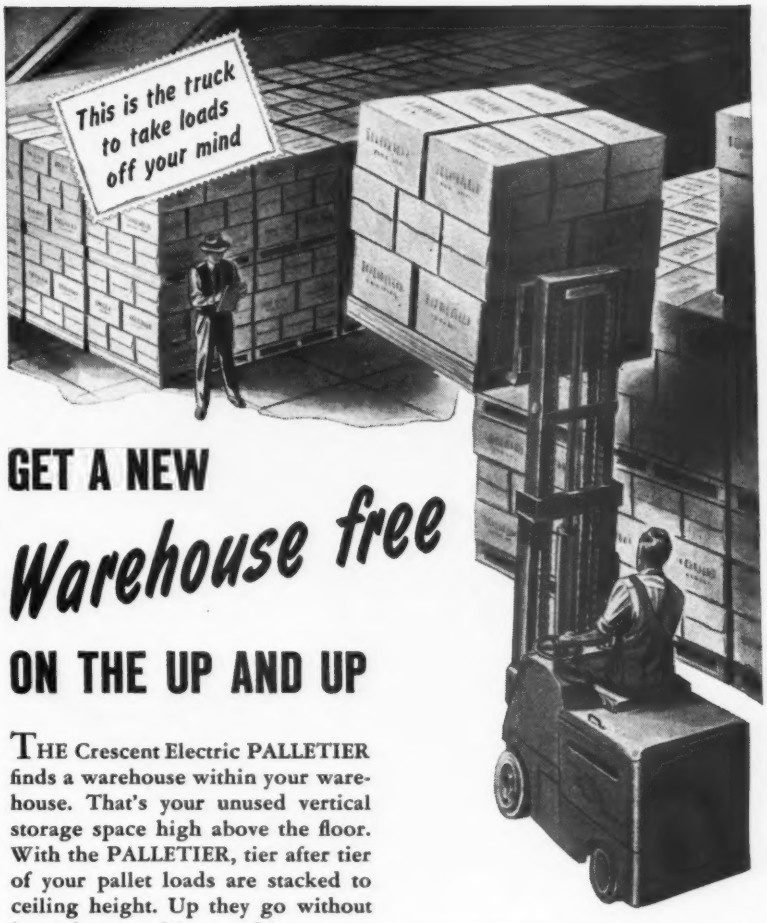
A. J. LIEBMAN
Research Engineer
Dravo Corporation
Pittsburgh, Pa.

*Editor, Western Industry:*

Your lead article, "Western Merchandisers Want More Western Manufactured Goods," in the November issue is certainly excellent.

I believe it would be helpful to both our program and *Western Industry* if reprints of this article could be mailed to our membership. I wonder if you could provide us with 600 copies which we would use for this purpose.

ALVIN E. HEWITT
Executive Vice-President
California Manufacturers Ass'n.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THE Crescent Electric PALLETIER finds a warehouse within your warehouse. That's your unused vertical storage space high above the floor. With the PALLETIER, tier after tier of your pallet loads are stacked to ceiling height. Up they go without heave ho . . . safely, speedily.

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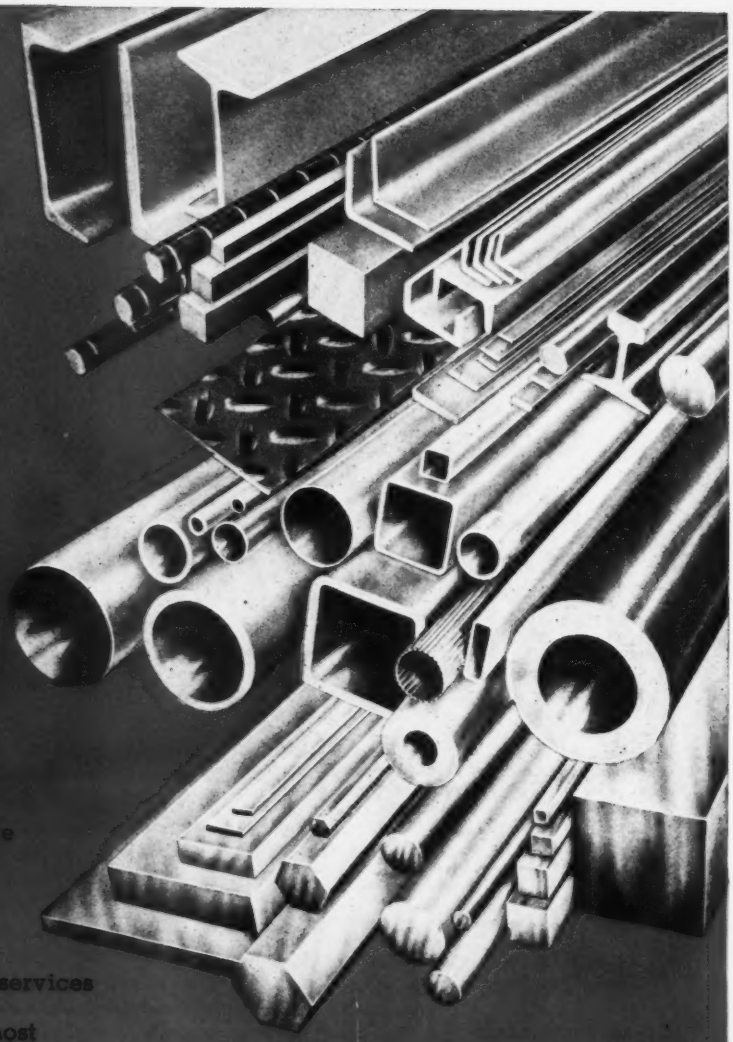

# SHAPES for things to come

It takes a lot of steel of all sizes and shapes to supply California's many industries. Drake Steel Supply Co. is a convenient source of steel. A wide variety of steel products plus many extra services have made Drake one of the foremost Steel Suppliers in the Southwest. Whether you need a pound or many tons, look to Drake for fast, courteous service. Write for latest folder.

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# THE WESTERN OUTLOOK..News...Statistics... 1

***Western manufacturing employment above a year ago; critical winter peak in Western electric power industry; crude oil production at all-time high; California leads in the use of cement; bakers finally stock up on flour; Northwest canners sell two-thirds of fruits and vegetable items; pulpwood inventories increase***

## Employment Picture

DESPITE substantial reductions in shipbuilding and repair industry, the number of wage and salary workers in California manufacturing industries is being sustained at levels above a year ago.

From the office of M. I. Gershenson, Chief of the Division of Labor Statistics, California Department of Industrial Relations, comes the information that employment in manufacturing decreased seasonally from 759,800 in August to 743,600 in September. This is primarily a result of contraction in canning. Excluding the canning industry, which is subject to wide seasonal fluctuations, employment increased by about 6,700 between August and September to a level more than 16,000 above a year ago.

Continued gains in apparel and printing and publishing brought employment in these industries to new all-time highs, as shown in Mr. Gershenson's bulletins. Wage and salary workers in the durable goods division rose to a total of 382,200 in September from 379,100 the preceding month. Increases were registered in all major industry groups except aircraft, iron and steel, shipbuilding, and machinery. The current level in all durable industries is only slightly below the September 1946 total of 382,400 wage and salary workers.

Employment in Arizona is remaining stable, with monthly increases over corresponding periods in 1946.

Employment in Washington state is at a level far surpassing predictions made two years ago. Unemployment, although higher than during the war, is at a low level by peacetime standards. Employment, while adversely affected by reconversion cutbacks and the unstable economic conditions that prevailed during the two-year period, has nevertheless registered steady progress.

The extent of industrial development during the past two years became apparent when it is considered that cutbacks in excess of 140,000 workers have occurred since V-J Day, according to the Employment Security Department of Washington.

Plywood operations are approaching maximum levels and employment expansion in the immediate future will be limited to the operating capacity of the available facilities.

The near maximum operation at most Washington pulp and paper plants has resulted in a slowdown in employment expansion. Very little expansion can be expected until additional facilties are available.

Employment in the production of transportation equipment has dropped 900, due chiefly to shortages of steel parts for railroad equipment and lack of additional work in ship repair. In aircraft, an expansion of more than 1,000 for the fall months was expected.

The average number of employees in the Oregon food processing industry rose to 19,658 last year as compared with a 10-year average of 15,681. Employment in other manufacturing groups increased further over the normal last year than in either food or lumber industries. Notwithstanding dire predictions to the effect that Oregon's employment would decline to a point about midway between wartime and prewar, latest tabulations from the State Unemployment Compensation Commission show that 1947 bids fair to exceed the 1946 all-time high in employment.

Representing the peak in harvesting and processing of Utah's crops, employment in Utah as of mid-September exceeded the August figure by 5,400. Metal mining lost 440 workers, due to harvest labor demand and beginning of school. The same factors were influential in the slight employment drop in coal mines.

Continued demand for workers in the sugar beet fields in Colorado and Wyoming, for track workers on the railroad in Colorado, and for harvest workers in the cotton and broom corn fields in New Mexico, indicates that the seasonal low in unemployment will probably be shown in the figures for October not yet released.

As October got under way Montana was experiencing the closest approach to full employment that has ever been recorded, with an estimated 170,000 wage earners employed in agriculture and industry. This is the greatest number in history and 15,000 more than were recorded a year ago.

During this period there were fewer than 1,400 persons unemployed and seeking benefits, the lowest number of unemployed ever recorded in a peacetime year in Montana. This figure is considerably less than half of the number unemployed a year ago.

### MANUFACTURING EMPLOYMENT

*Estimated Number of Employees in Non-Agricultural Establishments—Source: U. S. Bureau of Labor Statistics*

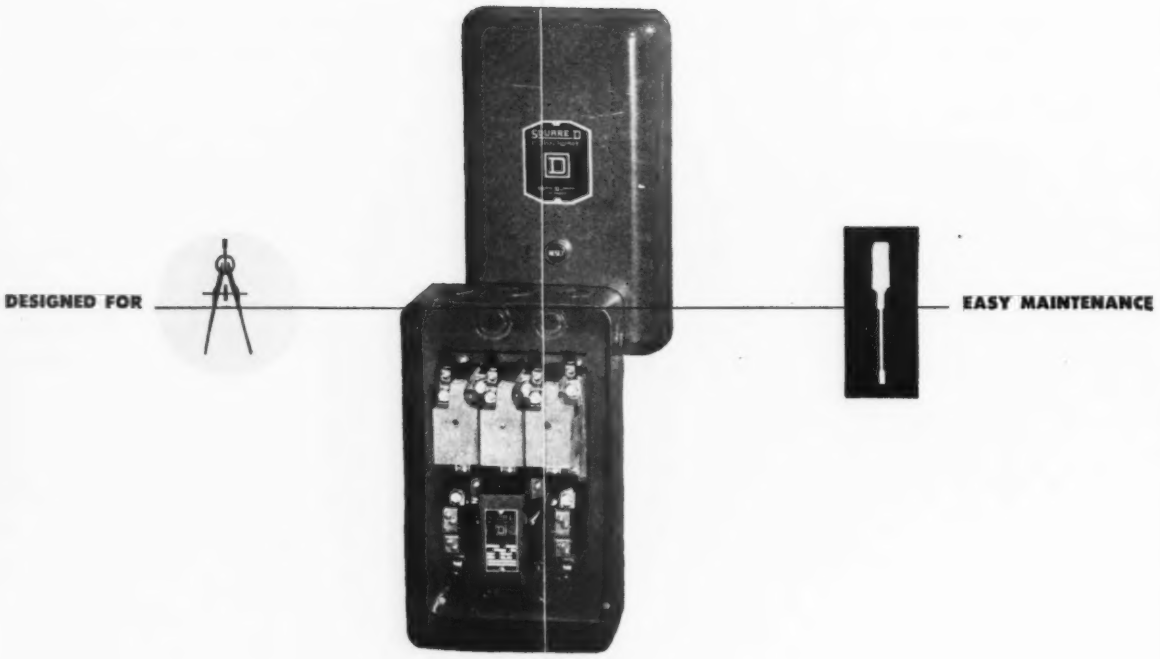
| | MONTANA | | IDAHO | | WYOMING | | COLORADO | | NEW MEXICO | | ARIZONA | | UTAH | | NEVADA | | TOTAL MTN. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 |
| April | 14,000 | 16,600 | 17,300 | ..... | 5,500 | .... | 47,800 | ..... | 8,600 | ..... | 11,200 | 13,600 | 17,900 | 23,510 | 2,900 | 3,700 | ..... | ..... |
| May | 15,400 | 17,100 | 17,400 | ..... | 5,400 | .... | 47,800 | ..... | 8,700 | ..... | 11,100 | 13,100 | 18,300 | 24,110 | 3,400 | .... | ..... | ..... |
| June | 15,700 | 17,800 | ..... | .... | .... | .... | ..... | ..... | .... | ..... | 11,100 | 13,200 | .... | 25,020 | .... | .... | ..... | ..... |
| July | ..... | ..... | ..... | ..... | ..... | .... | ..... | ..... | .... | ..... | 12,000 | 12,700 | ..... | 29,810 | 3,200 | 4,000 | ..... | ..... |
| August | ..... | ..... | ..... | ..... | ..... | .... | ..... | ..... | .... | ..... | 12,500 | 12,700 | ..... | 29,620 | 3,400 | 4,000 | ..... | ..... |
| September | ..... | ..... | ..... | ..... | ..... | .... | ..... | ..... | .... | ..... | 12,500 | 12,700 | ..... | 30,820 | 3,400 | 3,700 | ..... | ..... |

| | WASHINGTON | | OREGON | | CALIFORNIA | | TOTAL PACIFIC | |
|---|---|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 |
| April | 161,000 | 160,900 | 107,000 | ..... | 651,400 | 698,600 | 861,000 | ..... |
| May | 163,300 | 164,900 | 111,800 | 117,100 | 655,300 | 691,600 | 858,000 | ..... |
| June | 170,200 | 170,800 | ..... | ..... | 665,200 | 688,200 | ..... | ..... |
| July | 176,900 | 176,500 | ..... | ..... | 700,700 | 703,800 | ..... | ..... |
| August | 177,300 | 185,000 | ..... | ..... | 740,900 | 758,900 | ..... | ..... |
| September | 179,400 | 191,700 | ..... | ..... | 738,800 | 743,600 | ..... | ..... |

### INSURED UNEMPLOYMENT

*(Under all programs: figures in thousands. From Social Security Board)*

| Week ending | Ariz. | Colo. | Idaho | Mont. | Nev. | N. Mex. | Utah | Wyo. | Total Mtn. | Calif. | Ore. | Wash. | Total Pacific |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| April 5 | 7.5 | 8.5 | 4.8 | 6.3 | 2.3 | 6.2 | 5.3 | 1.6 | 42.5 | 268.5 | 20.8 | 40.8 | 330.1 |
| May 3 | 6.9 | 7.1 | 3.1 | 3.5 | 2.0 | 4.4 | 3.7 | .9 | 31.6 | 251.9 | 16.3 | 33.9 | 302.1 |
| June 6 | 5.2 | 5.4 | 2.1 | 2.1 | 1.6 | 3.7 | 2.7 | .6 | 23.4 | 226.0 | 11.5 | 25.7 | 263.2 |
| July 5 | 4.9 | 5.0 | 1.4 | 1.8 | 1.6 | 3.3 | 3.4 | .4 | 21.8 | 217.9 | 15.5 | 23.4 | 256.8 |
| August 2 | 6.6 | 5.3 | 1.7 | 1.5 | 1.6 | 3.0 | 3.7 | .5 | 23.9 | 206.2 | 13.6 | 26.4 | 246.2 |
| Sept. 6 | 5.7 | 4.1 | 1.2 | 1.4 | 1.4 | 2.1 | 3.4 | .3 | 19.6 | 164.4 | 10.9 | 24.5 | 199.8 |

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## Commerce and Banking

Estimated total carloadings in the Pacific Northwest Transportation Advisory Board district for fourth quarter 1947 only 4.7 per cent above 1946, but many manufactured products make a better showing. Upward estimates include flour, meal and other mill products, 5.2 per cent; dairy products, 20 per cent; ore and concentrates, 8.5 per cent; fir lumber, 5 per cent; petroleum and petroleum products, 10 per cent; sugar, syrup and molasses, 25 per cent; iron and steel, 16.5 per cent; machinery and boilers, 11.7 per cent; lime and plaster, 10 per cent; fertilizer, 15.4 per cent; paper, paperboard and prepared roofing, 24.4 per cent; chemicals and explosives, 10.2 per cent. Declines include frozen foods, 20 per cent; canned foods, 5 per cent; automobiles and trucks, 50 per cent. Same as last year: pine lumber, brick and clay products, agricultural implements and vehicles. Actual carloadings for 1947 through September were up 106,035 carloads, or 12 per cent, from 1946.

Seattle bank deposits in September more than offset earlier decreases; September bank clearings in Portland set a new all-time high.

## Power and Fuels

The electric power industry in the West faces its most critical period this month, as the December peak load comes on. Southern California, Arizona and New Mexico are the key points, where the drouth has been felt worst. Of some help are two new steam plants of Los Angeles Bureau of Power & Light, unit No. 2, 65,000 kw., which was to have been completed in November, and the Glendale plant of 20,000 kw., to be ready about the end of the year. These will ease the Arizona situation somewhat also.

Early rains in northern California have helped Pacific Gas & Electric Co. and water supply in the Pacific Northwest is fairly good. Rainfall for season in intermountain states generally good: Utah 100-118 per cent of normal, Colorado 114 per cent, Idaho 117-135 per cent, Montana 130-170 per cent.

Demand has been above seasonal increase, particularly in Utah and Idaho.

The seventh 108,000-kw. generator at Grand Coulee dam in Washington, placed in operation on Oct. 20, materially increases Northwest hydroelectric output. Eighth and ninth generators, which will complete the first half of the ultimate generating capacity at the dam, expected to be in operation in February and May, 1948.

The West Coast now uses all but 170,000 bbls. of California's daily oil production. Within two or three years, new means of boosting production must be found, or the far West will have to import oil from the Middle East, South America, and Texas, R. L. Minckler, executive vice-president of General Petroleum, told American Institute of Mining and Mechanical Engineers. With State Department blessing, another Western company is seeking production abroad, Macmillan having obtained permits from the Italian government to drill on 70,000 acres in Sicily.

U. S. crude oil production continuing its gradual gains, hitting an all-time high in October of 5,260,680 barrels daily. Phillips and other majors have increased prices paid east of the Rockies by 20c a barrel. The rise, fifth since the war's end, spread to the West before the end of November.

New wells in California for the year through October reached 1,701. Last year it was 1,486 to the same date.

300,000,000 barrels of recoverable oil reserves have been discovered since July, 1945, in intensive exploration of the Navy's Elk Hills. The 40,000-acre field also has served as a laboratory for "pickling" wells to standby condition for possible emergency needs.

Poll of industry leaders indicates that (1) supplies of fuel oil for home heating and industrial use this winter will be more adequate; (2) spotty distribution probably causes a tight situation in Midwest; (3) no widespread rationing to consumer is expected, but dealers in many areas may be put on allocations; (4) many oil companies have been discouraging conversion from coal to oil until new refining and transportation facilities can be built; (5) the industry's current $4,000,000,000 expansion program may help Midwest before spring; (6) fuel oil prices are steady but increases in some sections are expected.

Standard of California has abandoned drilling near Everett, Wash. The Lake Stickney well reached a depth of 11,000 ft. without meeting any indications of gas or oil.

Intermountain coal production is still being controlled by the supply of railroad cars, which is about 30 per cent short of current demand. A typical example is Geneva Steel Co., which is getting about 4,500 tons daily as compared to the required 6,000 tons needed for capacity operation. For the past several weeks the car situation has been deteriorating rather than improving because of diversions to the sugar beet harvest.

Production of fuel briquets in the Pacific Coast states in 1946 was 137,684 net tons, an increase of 4,953 tons over 1946, according to Bureau of Mines. Plants in operation numbered 35. Oregon was by far the largest consuming state in the West, with 95,688 tons received.

### WHOLESALERS' SALES

*In thousands of dollars. Percentage changes are from corresponding month of preceding year. From Bureau of the Census.*

**MOUNTAIN**

| | Automotive Supplies | Change | Electrical Goods | Change | Furn. and house furn. | Change | Groc. and foods exc. farm prod. | Change | General Hardware | Change |
|---|---|---|---|---|---|---|---|---|---|---|
| Mar. | 860 | +35 | 2,577 | +125 | ... | .. | 3,862 | +10 | 1,934 | +65 |
| Apr. | 720 | +28 | 2,910 | +147 | ... | .. | 2,743 | +11 | 2,033 | +41 |
| May | 681 | +10 | 3,007 | +140 | ... | .. | 3,559 | — 6 | 1,718 | +35 |
| June | 700 | +16 | 3,031 | +159 | ... | .. | 4,097 | +16 | 1,615 | +31 |
| July | 727 | +14 | 2,915 | + 95 | ... | .. | 3,783 | +21 | 1,775 | +29 |
| August | 631 | + 7 | 3,653 | + 52 | ... | .. | 3,880 | +10 | 1,816 | +10 |

**PACIFIC**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mar. | 2,964 | +19 | 9,877 | +128 | 1,430 | + 9 | 11,886 | + 9 | 6,265 | +47 |
| Apr. | 3,193 | +18 | 10,077 | +149 | 1,635 | + 1 | 11,775 | — 5 | 6,955 | +36 |
| May | 2,930 | + 9 | 12,158 | +109 | 2,640 | + 53 | 10,425 | — 3 | 6,114 | +22 |
| June | 2,580 | + 5 | 11,055 | +108 | 1,221 | +127 | 12,036 | +19 | 7,097 | + 6 |
| July | 2,932 | + 4 | 10,528 | + 63 | 1,617 | — 7 | 11,890 | +19 | 5,523 | +16 |
| Aug. | 1,266 | + 1 | 12,078 | + 34 | 1,536 | + 21 | 7,780 | +10 | 6,201 | +22 |

| | Industrial Supplies | Change | Lumber & bldg. mat. | Change | Mchy., equip. and supplies excl. elec. | Change | Metals | Change |
|---|---|---|---|---|---|---|---|---|
| Mar. | 2,188 | +35 | 1,590 | + 64 | 1,060 | +25 | 673 | +30 |
| Apr. | 1,995 | +30 | 1,604 | + 46 | 994 | +15 | .. | .... |
| May | 249 | — 2 | 1,223 | + 6 | 729 | +27 | ... | .... |
| June | 390 | —12 | 1,206 | + 45 | 828 | — 7 | 600 | + 1 |
| July | 1,594 | — 8 | 1,099 | + 26 | 704 | — 3 | 739 | + 4 |
| Aug. | 1,481 | —25 | 1,341 | + 34 | 664 | + 9 | 696 | — 1 |

### INDEX OF DEPARTMENT STORE SALES

*Index numbers, 1935-39 daily average=100 with seasonal adjustment. Compiled by Federal Reserve Bank.*

| | Total 12th Fed. Res. Dist. | | Southern California | | Northern California | | Portland | | Western Washington | | Eastern Washington and northern Idaho | | Utah and southern Idaho | | Phoenix | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 |
| April | 292 | 315 | 321 | 340 | 260 | 281 | 275 | 297 | 309 | 324 | 250 | 320 | 286 | 313 | 320 | 363 |
| May | 305 | 323 | 315 | 349 | 281 | 287 | 294 | 315 | 355 | 360 | 282 | 308 | 278 | 279 | 344 | 365 |
| June | 315 | 310 | 341 | 342 | 282 | 284 | 280 | 311 | 350 | 349 | 280 | 305 | 300 | 294 | 375 | 400 |
| July | 322 | 329 | 336 | 343 | 292 | 296 | 316 | 299 | 367 | 368 | 287 | 297 | 331 | 349 | 385 | 388 |
| August | 324 | 338 | 330 | 351 | 286 | 296 | 298 | 317 | 364 | 372 | 325 | 362 | 361 | 363 | 439 | 473 |
| September | 313 | 321 | 327 | 339 | 285 | 289 | 295 | 314 | 334 | 339 | 296 | 315 | 319 | 312 | 432 | 442 |

### FREIGHT

Cars of revenue freight, railroad carriers in 11 Western states.

*(Compiled from Assn. of Am. R.R. weekly reports)*

| | Carloadings | | Received from Eastern Connections | |
|---|---|---|---|---|
| | 1948 | 1947 | 1946 | 1947 |
| April | 447,932 | 522,144 | 237,236 | 279,392 |
| *May | 566,795 | 685,897 | 297,239 | 361,084 |
| *June | 554,501 | 562,274 | 267,951 | 272,144 |
| *July | 717,235 | 755,983 | 343,600 | 331,613 |
| *August | 694,085 | 728,578 | 374,898 | 381,068 |
| *September | 402,592 | 825,668 | 394,409 | 404,771 |

*5-week period.

### BANK LOANS

*Industrial, commercial and agricultural*
*(In millions of dollars)*

From weekly reporting member banks of Fed. Res. System in 7 Western cities: L.A., S.F., Portland, Seattle, Tacoma, Spokane, and Salt Lake.

(Average of Wednesday reports)

| | |
|---|---|
| May | 1,189 |
| June | 1,188 |
| July | 1,698 |
| August | 1,742 |
| September | 1,824 |
| October | 1,857 |

### BANK DEPOSITS

*(In millions of dollars—adjusted)*

Daily average for month, all member banks in 12th Federal Res. Dist. Demand deposits excluding U. S. Gov't deposits, cash items in process of collection, and intesbank deposits.

| | Net Demand Deposits | Time Deposits |
|---|---|---|
| April | 8,349 | 5,854 |
| May | 8,344 | 5,861 |
| June | 8,439 | 5,885 |
| July | * | 5,899 |
| August | 8,096 | 5,909 |
| Sleptember | 8,813 | 5,920 |

*NET Demand Deposits are now listed instead of Demand Deposits adjusted. U. S. Gov't war loan deposits no longer reported exempt from reserve requirements.

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4. Recommendation of the right seal
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# THE WESTERN OUTLOOK..News...Statistics... 3

## Non-ferrous Metals

Non-ferrous metal production in the intermountain states is holding to the early autumn level or increasing slightly. But a sharp drop in copper output will take place in the last quarter if a railroad strike (two days old at the time this was written) at the Kennecott Copper Corporation's Utah division is not speedily settled. The strike will close the Bingham mines and mills, which account for about 30 per cent of the domestic copper production.

Permanente Metals Corp. opened on October 31 the war-built aluminum reduction works at Tacoma purchased 10 months earlier from War Assets. It has an annual rated capacity of 40,000,000 pounds of pig from two potlines. Apparently electricity for the opening weeks was obtained on a dump power basis, as the firm power commitments were for 22,000 kw. in January, 1948, and 22,000 kw. more in February. Aluminum sheet production at Permanente's Trentwood rolling mill at Spokane is reported to have set the highest production record in October of its 15 months of postwar operation.

## Steel

As a result of the recent joint survey of stockpiles in government depots in northern California by the steel industry's regional scrap committee and War Assets Administration officials, the government has been giving more cooperation and increased releases of scrap are expected before long, although government machinery moves slowly. Finished steel supply may become even tighter than ever if allocation is set up and the Marshall plan diverts steel into export channels.

## Chemicals

War Assets Administration has received for disposal from the Reconstruction Finance Corporation the alcohol-from-wood waste plant at Springfield, Ore. Authoritative sources in the Northwest predict the plant will not be sold, but will be leased for operation by one of a half dozen unnamed industrial firms. An estimated $300,000 to $500,000 will be required to eliminate production bugs consisting chiefly of accumulating resin in percolator bases.

Early rains have eased up the electric power situation in northern California, which had considerably reduced electro-chemicals operations. Superphosphate fertilizer is the latest to join the circle of mourners over the shortage of boxcars, which has crippled deliveries of rock. Hopes for better days by the end of the year are expressed.

### ELECTRIC ENERGY

*(Production for Public Use—In thousands of kilowatt hours. Source: Federal Power Commission)*

| | Mountain | | Pacific Northwest | | California | | Total Pacific | |
|---|---|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 |
| March | 976,658 | 1,041,287 | 1,036,585 | 1,454,305 | 1,333,305 | 1,531,005 | 2,369,890 | 2,985,310 |
| April | 893,992 | 1,012,461 | 982,232 | 1,352,340 | 1,374,077 | 1,597,737 | 2,356,309 | 2,950,077 |
| May | 976,801 | 1,068,190 | 989,436 | 1,346,351 | 1,467,259 | 1,674,755 | 2,456,695 | 3,021,106 |
| June | 1,085,393 | 1,263,666 | 1,075,075 | 1,363,534 | 1,540,325 | 1,759,504 | 2,615,400 | 3,123,038 |
| July | 1,005,009 | 1,154,831 | 1,000,953 | 1,286,253 | 1,628,605 | 1,848,005 | 2,629,558 | 3,134,258 |
| August | 982,553 | 1,102,713 | 1,088,455 | 1,344,586 | 1,700,150 | 1,823,537 | 2,788,605 | 3,168,123 |

### PETROLEUM

(California, Oregon, Washington, Arizona, Nevada)
*(From Bureau of Mines)*

| | CRUDE PRODUCTION (Barrels, daily avg.) | TOTAL DELIVERIES (Thousands of barrels daily) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | GASOLINE | | GAS OIL & DIESEL | | HEAVY FUEL OIL | | ALL PRODUCTS | |
| | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 |
| March | 903,899 | 300 | 304 | 106 | 117 | 448 | 390 | 962 | 932 |
| April | 906,317 | 274 | 336 | 101 | 125 | 376 | 385 | 851 | 988 |
| May | 912,376 | 323 | 332 | 78 | 85 | 351 | 357 | 864 | 912 |
| June | 914,215 | 326 | 385 | 76 | 90 | 343 | 362 | 871 | 978 |
| July | 918,239 | 329 | 335 | 72 | 88 | 326 | 360 | 859 | 935 |
| August | 917,684 | 325 | 370 | 67 | 100 | 355 | 362 | 885 | 985 |

### BITUMINOUS COAL AND LIGNITE

*(In thousands of tons. From Bureau of Mines)*

| | (Colo.-N. Mexico) | | (Wyoming) | | (Utah) | | (Montana) | | (Wash.-Alaska) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 |
| March | 823 | 769 | 856 | 732 | 638 | 726 | 340 | 286 | 146 | 145 |
| April | 25 | 430 | 25 | 498 | 14 | 488 | 176 | 196 | 38 | 108 |
| May | 308 | 487 | 362 | 568 | 248 | 632 | 233 | 242 | 55 | 98 |
| June | 503 | 523 | 444 | 608 | 472 | 560 | 300 | 150 | 118 | 107 |
| July | 464 | 298 | 615 | 345 | 548 | 394 | 293 | 182 | 114 | 71 |
| August | 573 | 490 | 736 | 530 | 566 | 504 | 275 | 255 | 122 | 104 |

Two charcoal manufacturing pilot plants are proposed in the Northwest. Phillipson Retort Manufacturing Co., backed by a group of lumbermen, will construct a single retort of a planned 10 to 12-unit series at Eugene to permit study of final design problems and by-product handling. The plant to make charcoal briquets from sawdust is expected to be in operation after the first of next year for a six-months trial run.

Oregon State College and Bonneville Power Administration, co-sponsors of a separate project aimed at making charcoal from sawdust, plan to construct a pilot plant at Oregon State College, according to Dr. Phimister B. Proctor, technical director of the forest products laboratory at Oregon State.

## Lumber

By the end of September the lumber industry appeared to have reached a fairly even operating keel. For the shipments of both fir and pine have nearly equaled orders and production is within three or four weeks of the other two figures. Orders are about 20 per cent ahead of last year in fir and about 10 per cent ahead in pine.

### LUMBER

*(In thousands of board feet)*

*From West Coast Lumbermen's Association( Douglas Fir, Sitka Spruce, Port Orford Cedar, West Coast Hemlock, Western Red Cedar):*

| Year through September | 1945 | 1946 | 1947 |
|---|---|---|---|
| Production | 5,046,172 | 4,635,713 | 5,363,509 |

*From Western Pine Association figures (Idaho White Pine, Ponderosa, Sugar Pine and associated species):*

| Year through June | 1946 | 1947 |
|---|---|---|
| Production | 1,237,960 | 1,408,842 |

Fisher Lumber Co. has applied to the Oregon and California Land Administration for a cooperative sustained yield agreement to cover some 53,000 acres near Marcola, Ore. If approved it will be the second of its kind. The first was negotiated last year between the Simpson Logging Co., Shelton, Wash., and the Forest Service.

Winter shutdown of logging operations began in Washington early in October, Although loggers generally are reported to have the largest inventories since 1941, the early shutdowns are attributed to the high altitudes at which logging operations have been carried on, rather than the high inventories.

The North Pacific region of the Forest Service reported that lumber bids during the third quarter of the year reached an all-time high average, nearly 30 per cent above the previous figure. In Oregon bids averaged $10.76 per 1,000 bd. ft. and in Washington $8.05. Quarterly sales amounted to 393,331,000 bd. ft., slightly under the same quarter of last year, while the quarterly cut was 457,623,000 bd. ft., representing an increase of about 15 per cent over last year.

### IRON AND STEEL

Western Area of the United States
*From American Iron and Steel Institute (in net tons)*

| | Pigiron Output | Percent of Capacity | Steel Output | Percent of Capacity |
|---|---|---|---|---|
| April | 177,849 | 86.4 | 337,054 | 84.6 |
| May | 191.345 | 90.4 | 369,243 | 89.8 |
| June | 186,364 | 89.3 | 352,215 | 88.4 |
| July | 177,150 | 82.4 | 340,322 | 82.9 |
| August | 204,153 | 94.7 | 358,691 | 87.2 |
| September | 188,749 | 90.7 | 350,937 | 88.3 |

### Alloy Steel

| | Output | Carbon Ingots, Hot Topped* |
|---|---|---|
| April | 5,403 | 8,857 |
| May | 3,887 | 16,046 |
| June | 4,707 | 12,682 |
| July | 2,670 | 8,447 |
| August | 3,994 | 9,918 |
| September | 4,321 | 7,228 |

*Included in total steel.

### COPPER

*(Short tons. From U. S. Bureau of Mines)*

| | ARIZONA | | UTAH | | MONTANA | | NEW MEXICO | | NEVADA | | TOTAL 11 WEST'N STATES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 |
| February | 24,300 | 29,450 | 500 | 21,800 | 5,400 | 5,050 | * | 4,732 | * | 4,000 | 38,822 | 65,383 |
| March | 22,300 | 32,000 | 650 | 24,250 | 5,300 | 5,550 | * | 4,840 | * | 4,100 | 38,075 | 71,112 |
| April | 16,400 | 30,200 | 500 | 23,500 | 5,300 | 5,200 | 4,287 | 5,471 | 4,800 | 4,050 | 28,513 | 68,853 |
| May | 16,350 | 31,000 | 500 | 25,000 | 4,800 | 4,800 | 3,906 | 5,368 | 4,350 | 4,600 | 30,682 | 71,180 |
| June | 15,800 | 30,000 | 400 | 26,000 | 4,700 | 4,760 | 3,993 | 5,400 | 4,675 | 3,000 | 30,643 | 69,160 |
| July | 25,700 | 32,000 | 12,350 | 23,500 | 4,750 | 4,600 | 4,404 | 5,400 | 2,100 | 4,040 | 51,027 | 70,012 |
| August | 26,475 | 29,870 | 13,780 | 23,620 | 4,950 | 4,160 | 4,098 | 5,030 | 3,300 | 4,430 | 53,481 | 68,735 |

### SOFT PLYWOOD

From Bureau of the ensus
*(In thousands of square feet)*

| | 1946 | 1947 |
|---|---|---|
| March | 109,005 | 139,779 |
| April | 120,152 | 148,027 |
| May | 128,489 | 141,752 |
| June | 121,412 | 139,623 |
| July | 95,734 | 104,487 |
| August | 126,631 | 137,042 |

## Pulp and Paper

Inventories of pulpwood on the Pacific Coast were recently estimated at over 700,000 cords, with receipts averaging more than 10 per cent a month above consumption, whereas a year ago receipts were failing to keep up with demand. Apparently the coast mills will be able to run all through the winter, and they account for most of the gain in pulpwood stocks for the country.

### PULPWOOD

(Pacific Northwest)
*(Cords of 128 cu. ft., roughwood basis. Soudce: Bureau of Census)*

| | Receipts | Consumption |
|---|---|---|
| March | 365,874 | 271,419 |
| April | 403,316 | 267,911 |
| May | 457,888 | 289,966 |
| June | 578,510 | 265,892 |
| July | 362,477 | 344,851 |
| August | 395,124 | 386,967 |

## Building Materials

California used nearly twice as much cement in the first half of 1947 as any other state in the union, reports the Bureau of Mines. Texas ran second and New York third. Demand in the late fall did not suffer the usual sharp decline. Mills are gaining a little storage on account of increased capacity and will go into next season with some supply on hand, whereas in the winter of 1946-47 they were unable to accumulate any storage.

Earlier reports of occasional cancellations in pipe orders have turned out to be mostly revisions of plans followed by new calls for bids. Manufacturers have increased their capacity about 10 per cent this year. California, the second largest tile market in the country, had approximately 1,535,000 sq. ft. of ceramic tile available in August, according to the Tile Council of America, and more than 18,400,000 sq. ft. for the first three quarters of 1947. August production rate in the country was only two per cent behind the same month of 1926, the industry's peak production year.

Building material expenditures in California, including hardware, heating and plumbing supplies have reached an average rate of more than $3,500,000 a day, it is indicated by sales and use tax returns. A year ago the level was $2,500,000.

American Appraisal Co. construction cost index (1913=100) shows the following changes for four Western cities (indices reflect cost trend in each city, but not the relative trend between cities):

| | Decontrol November 1946 | June 1947 | July 1947 | Aug. 1947 |
|---|---|---|---|---|
| San Francisco | 323 | 396 | 409 | 417 |
| Denver | 326 | 394 | 400 | 409 |
| Seattle | 351 | 443 | 449 | 464 |
| Los Angeles | 344 | 429 | 433 | 440 |

## Meat

Meat demand is reported to have eased a little through the West, due apparently to the fact that the public at last is beginning to turn to cheaper cuts. Heavy slaughtering of hogs has brought prices of pork products down. Lard continues firm with big export shipments, and demand for hides good, resulting from an increase in miscellaneous leather making for which labor was not available earlier.

## Flour

Most of the big bakers of the Pacific Coast finally gave up in October and booked enough flour to last them until next season, after having seen the price go up from $6 to $8, with prospects of further increases on account of the constantly growing export demand. A few thought they would hold out until the bitter end, however. Larger cereal manufacturers bought early, dipping heavily into the baart wheat supply of Washington. Eighty per cent of the Pacific Northwest's grain was reported sold by November. It is expected that it will be next April before the mills in the West feel the pinch of supply that may cause shutdowns.

## Sugar

Steadily increasing national beet sugar crop estimates in recent months presage the possibility of marketing allotments next year and acreage limitations in 1949. Department of Agriculture's Aug. 1 estimate was 1,860,000 tons of sugar, raw value. As of Sept. 1 it was 1,870,000 tons and on Oct. 1, 1,890,000 tons. The amount which it is estimated can be sold by June 1 next is 1,800,000 tons.

California's beet sugar crop estimate for this year is 17½ tons to the acre, or 2,695,000 tons; in 1946 it was 2,079,000 tons, ½ ton an acre less. Colorado's yield has increased from 13½ tons to 13.8, or 2,318,000 tons in 1947 and 2,268,000 tons in 1946. Idaho's estimate is 1,732,000 tons, as against 1,274,000 in 1946. Utah, 704,000 tons at 16 tons to the acre.

High sugar production has been reported from several Northwest beet plants. The Nyssa, Ore., plant of Amalgamated Sugar Co. set a new high production record for all of the company's plants by processing 1,006,300 pounds in a 24-hour period. The Toppenish, Wash., plant of Utah-Idaho Sugar Co. is also reported to be setting new daily production figures with prospects of producing nearly 100,000,000 pounds this season.

## Canning and Packing

Northwest Canners Association reports that two-thirds of the Pacific Northwest pack of eight canned fruits and vegetables were sold by October 1, all but two items at lower prices than last year. Total pack was 19,415,000 cases, with 12,478,100 cases sold. Details as follows:

| Item | Pack (in cases) | Percent sold | Percent advance or decline in price over 1946 |
|---|---|---|---|
| Corn | 2,326,081 | 86.4 | 5.09 advance |
| Green beans | 2,320,738 | 86 | .55 advance |
| Beets | 513,668 | 57.4 | 2.08 decline |
| Peas | 7,839,293 | 51.2 | .67 decline† |
| | | | 5.52 decline‡ |
| Royal Anne cherries | 159,428 | 66 | 13.9 decline |
| Pears | 3,834,408 | 74.5 | — no chg. |
| Prunes | 1,442,880 | 40.8 | 6.39 decline |

†For graded packs. ‡For ungraded packs.

Prices paid to producers for 1946 and 1947 on a basis of percentage change from 1941 were: beans, up 89 per cent; cherries, up 60 per cent; pears, up 72 per cent; peaches, up 27 per cent; prunes, up 56 per cent.

### CEMENT

*(In thousands of bbls.; from U. S. Bureau of Mines)*

| | —California— | | Oregon - Wash. | | Colo.-Wyom. Mont. Utah - Idaho | |
|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1946 | 1947 | 1946 | 1947 |
| Jan. | 1,159 | 1,797 | 234 | 295 | 233 | 318 |
| Feb. | 1,355 | 1,613 | 250 | 296 | 109 | 297 |
| Mar. | 1,629 | 1,907 | 298 | 460 | 245 | 332 |
| April | 1,670 | 1,901 | 432 | 523 | 356 | 337 |
| May | 1,745 | 1,938 | 317 | 523 | 413 | 410 |
| June | 1,684 | 1,906 | 437 | 519 | 386 | 393 |

### STRUCTURAL CLAY PRODUCTS

| | UNGLAZED BRICK (in thousands of standard brick) | | UNGLAZED STRUCTURAL TILE (short tons) | | VITRIFIED CLAY SEWER PIPE (short tons) | |
|---|---|---|---|---|---|---|
| | Mountain | Pacific | Mountain | Pacific | Mountain | Pacific |
| Mar. | 10,825 | 12,694 | 2,352 | 3,156 | 2,153 | 12,611 |
| April | 12,333 | 17,467 | 2,257 | 3,661 | 2,354 | 13,377 |
| May | 13,780 | 24,355 | 2,687 | 3,108 | 2,498 | 14,067 |
| June | 14,702 | 26,503 | 2,706 | 2,984 | 2,227 | 13,708 |
| July | 13,740 | 29,098 | 2,325 | 3,492 | 2,053 | 11,776 |
| August | 14,807 | 31,623 | 3,750 | 3,342 | 1,983 | 13,784 |

### ASPHALT ROOFING

(Ariz., Calif., Idaho, Nev., Ore., Utah, Wash.)

| | ASPHALT ROOFING (Sales squares) | SATURATED FELTS (Tons of 2000 lbs.) |
|---|---|---|
| March | 761,481 | 5,426 |
| April | 793,719 | 4,832 |
| May | 811,578 | 4,799 |
| June | 797,995 | 5,444 |
| July | 725,892 | 5,513 |
| August | 775,095 | .... |

California's cling peach pack was nearly 2,000,000 cases less than 1946, but the fruit cocktail pack gain about offset it. Net tonnage received from growers was 498,088, last year 533,480. Figures from Cling Peach Advisory Board as follows, on No. 2½ can basis, in cases, as follows:

| | 1946 | 1947 |
|---|---|---|
| Regular peach pack | 17,285,040 | 15,318,945 |
| Fruit cocktail | 7,751,629 | 9,305,171 |
| Fruits for salad | 296,089 | 530,719 |
| Mixed fruits | 744,504 | 223,221 |
| Spiced peaches | 160,389 | 261,669 |
| | 26,237,651 | 25,639,725 |

Stocks as of October 1 are reported by the Canners League of California as follows, in cases: apricots, No. 2½ can basis, 1,840,263; sweet cherries, No. 2½ can basis, 27,609; asparagus, all sizes, 845,494. Canned olive pack estimated at 1,000,000 cases or less; last year 1,897,542 cases packed.

Alaska salmon pack, summer final report, 4,240,148 cases; last year 3,877,006 cases. Pinks smallest pack in 20 years. Reds in top place for first time. Tuna prices at Astoria reached all-time high of $650 a ton. California sardine pack to October, 23,925,259 cases; last year to date, 874,045 cases.

### TRAILER COACHES

*Housing types only. From Bureau of the Census*
*In number of units—California only.*

| 1947 | Production | Shipments | Value of Shipments |
|---|---|---|---|
| May | 1,084 | 1,068 | $1,403,621 |
| June | 1,239 | 1,163 | 1,554,337 |
| July | 1,314 | 1,281 | 1,668,163 |
| August | 1,525 | 1,261 | 1,668,023 |

### WHEAT FLOUR

*(In thousands of sacks; from Bureau of the Census)*

| | Ore.-Wash. | Montana | Utah-Idaho | Colorado | California | Total |
|---|---|---|---|---|---|---|
| March | 1,794 | 397 | 539 | 495 | 463 | 3,688 |
| April | 1,694 | 360 | 526 | 448 | 420 | 3,448 |
| May | 1,701 | 362 | 484 | 467 | 362 | 3,376 |
| June | 1,721 | 342 | 488 | 432 | 409 | 3,393 |
| July | 1,602 | 356 | 293 | 458 | 445 | 3,154 |
| August | 1,613 | 362 | 317* | 467 | 368 | 3,127 |

*Idaho only.

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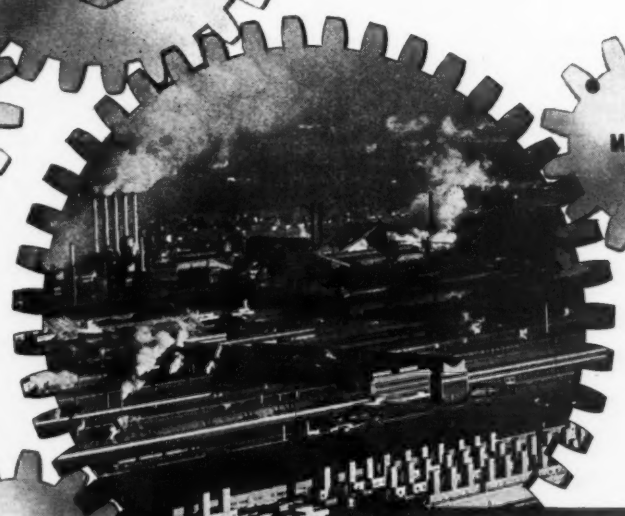

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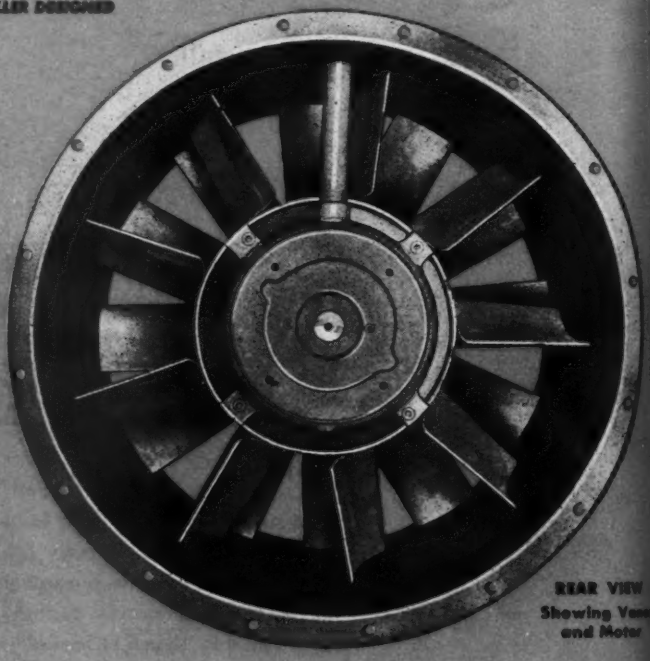

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# Spotlight on the NEWS

WESTERN INDUSTRY
FOR DECEMBER, 1947

VOLUME XII NO. 12

If you want to sustain a "going" airframe industry that can take care of a long range military procurement program, don't try to keep all the airframe companies alive by giving them enough orders to stay in business, according to "Dutch" Kindleberger, president of North American Aviation. That just makes them complacent and lazy.

Instead, he told the President's Air Policy Commission, give the air services enough funds for procurement and then let the airframe companies compete for the business on the basis of design and price. Only by such competition can the best air force be obtained.

Also, the airframe manufacturer should retain the authority to select his own subcontractors, according to Mr. Kindleberger. He says:

"I disapprove of what I call the 'rat-hole' method of subcontracting, wherein you lay an assortment of parts on a table, a group of would-be subcontractors mill around the table and pick out what they want, and the 'subcontractors' then disappear down their respective holes clutching the parts. Pressures exerted on us in World War II resulted in our waiting a long time, often in vain, for something to come out of these rat-holes."

### The Westward Pull

Central Montana's historic economic dependence and sociological ties with the Midwest are weakening, reports Robert G. Seymour, assistant to the director of the Bureau of Business Research, University of Washington.

A survey of 12 counties lying just east of the Continental Divide, with a population of 125,000 and an annual income of $146,500,000, showed that each year brings a larger proportion of Montana's business transactions to the Pacific Coast states. More livestock moves westward, the major portion of the wheat has shifted from Duluth to the Pacific Coast states, retailers are buying more on the Coast, particularly in style goods, sportswear and furniture.

But, says Mr. Seymour, it is also part of an integral intermountain region, in which the states are allied economically as well as geographically, and the simultaneous strengthening of Intermountain-Pacific Coast ties may well be significant in reducing the dependence of central Montana on the Midwest and East.

### Western Coordination

Bit by bit the West is pulling itself together. Coincidentally with the suggestion by Dr. J. R. Mahoney of the University of Utah in the leading article in this issue of *Western Industry,* the Western States Council has recognized that something should be done to coordinate Western industrial and statistical research.

At the joint meeting with the Mountain States Association at Colorado Springs October 15, possibilities were discussed of various organizations and groups pooling efforts to minimize duplication. A big job and a tough one, but a problem recognized is half met.

To guarantee that the Western States Council will always speak for the entire West, and not fall under domination of a single state or a small group (United Nations please note), by-laws were amended at Colorado Springs to require assent of a majority of the eleven Western states on any proposition. Thus such a violent division as arose between the Pacific Northwest and the mountain states over aluminum cannot recur.

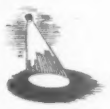
With steel and aluminum disposed of, fertilizer and phosphates will be the next industrial resource to be investigated, picking up the ball that Ezra Fjeldsted of Ogden has carried so far. And the Council is increasing its manpower by having three directors from each state, instead of two.

### Psychology Paying Off

Psychology hiring tests, to put square pegs in square holes and round pegs in round holes, pay off in real dollars, says Guy W. Wadsworth, v.p. of Southern California Gas Co.

A man-hour study in one of the Pacific lighting companies made in 1930, prior to the use of tests, showed that 1,365 employees working 48 hours a week were used to meet staffing requirements. In 1940, following continuous use of the tests for eight years, not only in new hiring but in combing through the working force for likely talent, 1,120 employees working 40 hours were successfully carrying the company's work load which itself had showed a moderate increase in the period.

As for psychology, better use of it could be made in company house organs, according to another speaker at the Palm Springs industrial relations conference of the NAM and M&M. Robert Newcomb, Chicago industrial relations consultant, who spark-plugged Anaconda's "Copper Commando" at Butte in wartime, said most house organ money goes down the rat-hole as far as creating better employer-employee relationships, and interpreting a company to its employees is concerned. Also, editors of union labor papers can teach the average company publication editor more about influencing people than Dale Carnegie.



### 'Eastern Branch Plants'

Like a teen-age lad first greeted by the barber with a "Shave, sir?", industry on the Pacific Coast may well feel a tingle of flattered pride over the recent visit of two emissaries representing large Illinois utility companies.

The visitors, who reportedly have done an excellent job of industrial promotion in their home area, were sent by Commonwealth Edison and Public Service Corporation of Northern Illinois with the unprecedented mission of getting expansion-minded Westerners to locate their eastern branch plants in the state of Illinois!

# Have You Called Our Number?

We're still pretty new on the West Coast, so we thought we'd remind you how to get in touch with our new Los Angeles plant when you need steel. The present great demand for steel products prevents us from promising that we'll always be able to meet your requirements, but you can rest assured we'll do our very best.

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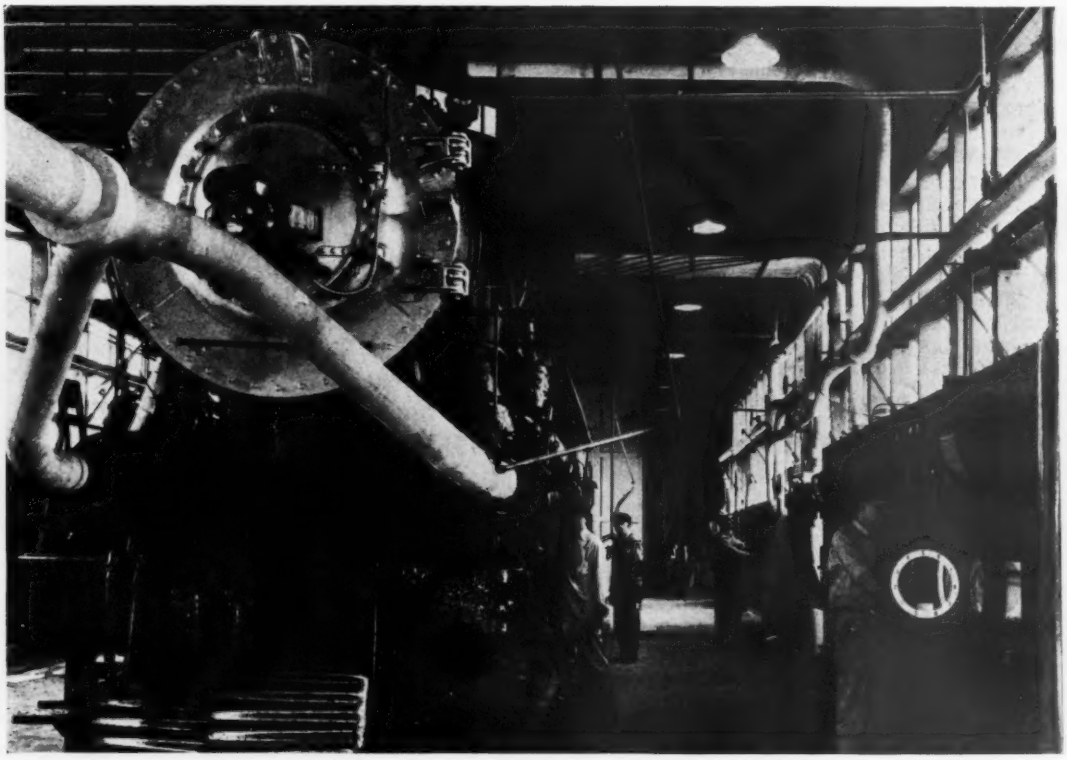
# RYERSON STEEL

## PICTURE OF THE MONTH



**THE INDUSTRIALIZED WEST . . .** *Locomotive clinic at Southern Pacific's big shops at Sacramento seeks to get more steam and pulling power from less fuel oil. Water injected into the cylinders at high pressure cools down the working steam the same as in pulling a train. Excess steam created by the water is drawn off through the "Y" pipe.*

# Dynamic Processes at Work In the West Need Shaping

By DR. J. R. MAHONEY
Director, Bureau of Economic and Business Research, University of Utah

**Dr. Mahoney is also acting at the present time as Senior Analyst in the field of Public Domain and Natural Resources for the Legislative Reference Service of the Library of Congress, the means set up by Congress to provide for its members more adequate information on conditions.**

THERE are certain features of the West's future which are as much discussed as the problematical future of the younger generation, especially the West's rapid rate of growth and the uncertain final results of the dynamic processes now at work.

Another feature that the younger generation and the West have in common is that so much of their development lies in the future. Consequently, the opportunity exists to profit by the successes and failures of the older generation and the industrially mature parts of the country. Through careful study and research the West can profit from the experience of others.

The isolation of the West, because of the great distances from other sections of the country, creates special problems and circumstances affecting the nature and the rate of development of the economy of the West.

In the earlier period of our history, this isolation imposed an economy that was largely self-sufficient. In the succeeding period, as transportation facilities improved, the West developed a colonial relationship to the eastern part of the country. In what may be looked upon as a final

# West's Dynamic Processes Need Shaping

*(Continued from page 37)*

stage of Western economic development, when the resources and industrial facilities have been fully developed, a considerable degree of self-sufficiency will probably return as a characteristic.

There is great need for re-orientation of our thinking and re-analysis of our problems. The process through which we are going is, in many ways, similar to that of the eastern part of the United States when it changed from its colonial relationship to Europe in favor of a more mature economy based on a full utilization of its own basic resources. We can profit a great deal by an analysis of the mistakes made, especially in the choice of locations of many of the important industries in the east, many of which were later shown to be unsound.

### Profit by Past Experience; Avoid Mislocating Industries

At the University of Utah we have just completed a study of the geographical shifts in the steel industry since 1860. The most impressive feature of the study is the great number of cases where blast furnaces and other steel-making facilities were constructed at localities which later were shown to have so many handicaps that the facilities were dismantled or abandoned.

Many of these mistakes were unavoidable because of the fragmentary existing knowledge of the factors influencing their functioning. The West can avoid many mistakes of this kind in the location of new industries by developing a vigorous program of exploration and research that will bring to light the resources and factors that will influence the future economic functioning of the West.

### Basic Physical Forces Shape Our Economic Functioning

In the West, the basic physical forces affecting our economic functioning loom very large. The expertness with which we understand and deal with these physical forces will determine our success.

In the western United States the geological processes of mountain building produced such a rough and uneven terrain that most of the land was made unfit for agriculture. However, in those limited areas that are level enough, there is a very rich soil that produces high quality produce when life-giving waters are applied. The uneven topography creates a very uneven distribution of precipitation, concentrating it in the mountains and reducing it in the lowlands. It is expensive to bring water to the land, but when this is done, it often creates an opportunity for great hydroelectric power developments, one of the great resources of the West only partly developed.

These same geological processes which spoiled much of the land for agriculture, provided ideal circumstances for a great abundance and variety of minerals. Many of these mineral resources are still concealed and only a small portion have been developed.

### Federal Government Dominates Natural Resources

Only a small portion of the West has been mapped topographically, which is the beginning point of geological exploration. We are proceeding slowly to find the full extent of our resources.

The geological processes have rendered so much of the West unsuitable for private ownership and thereby have created a situation where a great public domain still remains under the United States Government ownership and management. These resources and their proper management are vital to our welfare.

No other part of the country is so vitally concerned with federal policies. Large portions of the nation's forests, minerals, grazing lands, and most of our undeveloped hydroelectric power resources, and much of our water, are on the public domain. Since the federal government is taking the lead in reclamation projects, much of the West's agriculture is dependent upon governmental policies.

Many controversies and uncertainties have come to be characteristic of our Western problems. There are controversies between various interests and parts of the West before Congress when Western problems are under consideration. When we get more complete information, the controversy will often give way to unified action. We need more and more research.

In the past 35 years we have developed and spent $1,000,000,000 for reclamation projects. Projects now before Congress, or in the developmental stage, will cost between $15,000,000,000 and $20,000,000,000. Such vast sums will create special problems of financing that deserve painstaking study.

### Economy Streak Hampers Hydro-Electric Power Development

There has been a slowing down in development of projects because of economy in governmental expenditures and attempts to fit the construction of these projects into the general over-all economy of the country. We have heard much in recent years of government spending to compensate for the uneven rates of spending and economic activity carried on by private enterprise.

This theory would call for low government spending in prosperity periods and high spending during depression periods. The use of these great Western multiple purpose projects for such purposes is a matter of vital concern to the West.

This compensatory program seems to assume that public activity is less vital than activity of private enterprise, and is postponable and subject to control, and, therefore, can be used to compensate for the unevenness in private enterprise. But these great projects are at the very heart of our Western economy. The results that flow from these projects fit into the whole economy and are often too important to wait for a depression. They may be no more postponable or less important than activities of private enterprise.

In the current acute power shortage in the West, the government must carry on power projects, or private enterprise will have to build less desirable projects. Postponement may in the very nature create circumstances where the development of the whole region is retarded and thrown out of balance. Such programs of "compensation" are not always projected far enough. We need more information to see the full effects of such policies.

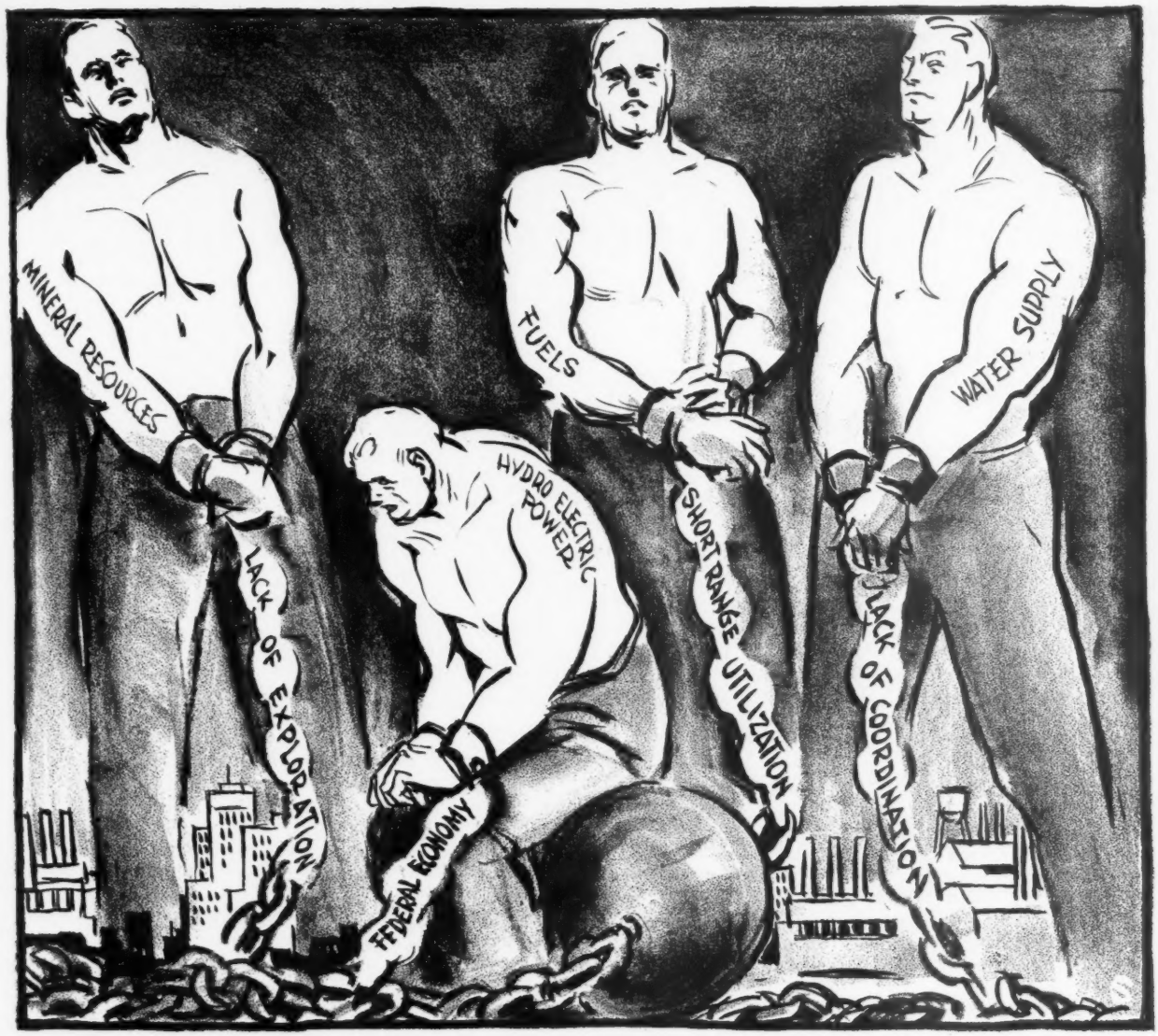
### Need Long-Range Utilization Of Fuel Supplies

As we are slowing the development of hydroelectric power, we must speed up the development of steam generated power that will accelerate the exhaustion of limited supplies of oil and gas. From the West's viewpoint, we must promote the proper utilization of all our resources.

The West has one-half the coal reserves in the United States, which contain 500 times as much energy as the known gas and oil reserves. We have over one-half of the hydroelectric resources of the country. Current developments place an increased load on the most easily exhaustible of our resources — oil — while retarding development of our least exhaustible one —hydroelectric power. We must look far enough into the future, and base our planning on the relative length of life of our resources.

We must be careful not to initiate rates based upon the cheapest projects for development, and later retard the development of power resources that will be more costly or require the increase of rates, which may displace industries attracted by low rates.

In the field of Western power developments, controversies are retarding the development of all our resources. Needed water projects are jeopardized by delay and controversy.




***THE WEST MUST UNSHACKLE ITS CHAINED GIANTS***

The magnitude of the problem of financing these great resources, and problems connected with their development, shows the need for more concerted and well-worked out programs, if we are going to utilize our undeveloped resources. Controversies over interstate rivers must be settled before development is possible.

We need more basic information on water resources, and the proper integration of surface run-off and ground water resources, especially the rate of charging, safe yields, origin of underground water, and the most effective use of both sources. Many projects for diverting surface run-off will influence the underground channels. Some unfortunate results may be evident too late. Our present studies of underground water resources are fragmentary and are not on a sufficiently sound geological basis for proper development.

In financing the West's projects we have extensive controversies over such things as whether certain parts are non-reimbursable or reimbursable with or without interest, and the distribution to purchasers of costs to various items and beneficiaries.

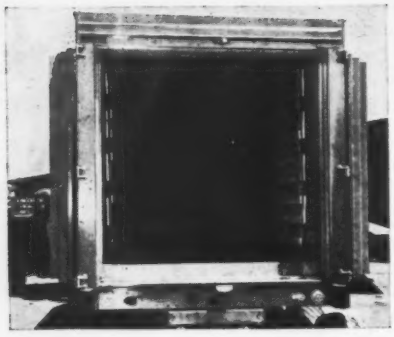
### Cooperation and Coordination Vital For Water Resources

These and other unsettled questions are some of the reasons why the rest of the United States hesitates to spend large sums on the West as rapidly as the West desires. If we must engage in controversies let us do it in a hurry and come to sound conclusions and agreements.

I am very much interested in the position of these great multiple purpose projects in the total economy of the West. In a more mature economy these inter-relationships will become even more vital.

We have made many studies of the national economy and the economy of states, or sub-sections of states, but not enough of the West as a region which is very much needed as it enters a more mature stage of development. Many studies of economic problems on a state basis are not sound when you look beyond the state boundaries.

We should also take longer looks into the future. An over-all planning agency is not needed, but expanded research by existing agencies, coupled with a greater degree of coordination of efforts, are very much needed to discover the nature of the problems of the West and to clarify the issues and elements in a sound program of development.



*—Courtesy Fruehauf Trailer Co.*

# What to Think Over When You Buy Mobile Refrigeration Units

By DOUGLAS ALBERT
Chief Engineer
Fruehauf Trailer Co. of California

THE reasons why mobile refrigeration is much more difficult than fixed refrigeration result not only from the ever-changing physical conditions which confront a vehicle on the road, but from the conflicting government regulations which affect all motor transportation.

The unjustness of many of these restrictions are aggravated when applied to refrigerated trailers because of the weight of insulation and means of refrigeration which must be carried to permit these units to function. It is highly important that the least-favorable restrictions governing the maximum length, weight per axle and over-all gross weight be considered before making recommendations for the purchase of specific refrigerated vans.

An important fact to be stressed to prospective buyers is that a refrigerator van is not designed to be used as a cooling plant. The payload should be pre-cooled to the temperature at which it is to be transported before it is placed in the trailer. Even when it is possible to chill the payload to some extent, an inappropriate burden is placed on the means of refrigeration used. This increases operating cost, or overloads the refrigerating unit, or both.

The four principal methods of refrigerating truck-trailers are wet ice, dry ice, "hold-over" plates and mechanical refrigeration. Each type not only has its own definite advantages and drawbacks, but each has a great many users who think highly of it. Favor of all types is justified because each serves to outstanding advantage under suitable conditions.

However, mechanical refrigeration from a number of standpoints has proved the most practical solution in vans used to haul a great many kinds of commodities, especially where hauls are long.

But no matter what type of refrigerating system is used, the trailer must be insulated for the loads it is to carry and the conditions under which it is to operate. Refrigeration can only attempt a hopeless task if the trailer is inadequately insulated.

The insulation must have many characteristics which are not essential in insulation used in fixed refrigerators. It must be light in weight because weight is one of the most important factors in mobile refrigeration. It must have a low K-factor. The vehicle will be subject to constant shock and vibration; therefore, it must be durable and have no tendency to settle, sag, pack or disintegrate. It must not absorb moisture in appreciable quantity, and it should permit moisture that is absorbed to be evaporated rapidly. It must be fireproof and vermin-proof.

Tests have shown that because of structural necessities the K-factor of insulation must be doubled to arrive at a more practical estimate of the actual heat conduction of an insulated vehicle.

The primary purpose of a mobile refrigeration system is to absorb the heat which passes through the insulation as well as the heat that gets into the vehicle when the doors are opened.

Users should make certain that any unit has ample capacity to meet the refrigerating requirements and the conditions of use.

**• This view is looking through the back door up at the top of a Union Ice Company's refrigerated truck. The three metal holdover plates are filled with an eutectic solution (brine, or mixture that will freeze at pre-determined temperature) which is frozen at night by means of a compressor connected to the copper tubing running into the plates. The compressor is disconnected in the morning, and as the solution melts the truck will be completely refrigerated for 12 or more hours. The solution in the plates will freeze at —6°F. Temperature in trucks transporting frozen foods is from 0°F to 10°F. For long distance hauls a compressor is carried in truck, which the driver can connect each night.**

# Look Ahead, Lest Salesmen Duplicate Foremen Problem!

By PAUL HEYNEMAN
(Until recently vice-president and assistant general manager of Eloesser-Heynemann Co., San Francisco. Currently sales and industrial relations consultant.)

TO INTRODUCE this discussion dealing with salesmen as part of management, let us first recall the shock that came just a few years ago when foremen began to join unions. You will recall the great hue and cry of top management at that time.

"This is unfair," they said. "You can't do this to us. Foremen are management's representatives in the plant. We depend on them to supervise our products and our men. They must carry out our orders. There just *can't* be any split in the loyalties of our foremen."

But two things happened. First, many foremen groups joined unions in spite of employers' protests. Second, employers suddenly began to analyze their practices in dealing with their foremen. They found out, just as though it were a *new* condition, that their relationship with this important group needed a complete overhauling.

So they went to work, and here is what happened. They began to:

1. Pay foremen more adequately.

*(Continued on page 42)*

## Salesmen's Deep-Seated Grievances Must Not Go Ignored . . .

*(Origin of these letters and comments explained at top of page 43)*

LETTER — "I know that this is a wonderful company I represent. Yet, after fighting their battles for them for nearly 25 years, I'm not as well off financially as if I had been working for one of my customers."

COMMENT—Perhaps this man's responsibilities should be reappraised. If the character of his work and his 25 years' experience gives him a stature and ability far greater than any of his customers' employees, he won't keep on earning less and still keep his heart with his company. What do *you* think?

LETTER—"Just yesterday, up comes headquarters with this brainstorm, a deal giving each of my customers an expensive display counter and *me* paying for it by taking half commissions for 30 days during the life of the deal."

COMMENT — Here is a very old salesman's beef — asking him to share the cost of a promotional plan. While it usually can be done, I urge you to ask yourself in advance whether the *long* run human factor (as indicated by this letter) may not be more important than the *short* run economy factor.

LETTER—"You asked for facts so I am quoting from our Sales Bulletin No. 112. It said this and nothing more:

'To all Salesmen:

'As you know, price controls have worked a great hardship on us in marketing our 17-36 line. Rather than discontinue production entirely, we have concluded to streamline our costs all along the line. Accordingly, effective as of today, salesmen's commissions on all 17-36 goods will be 5 per cent instead of 7½ per cent as before. We are sure that you will be glad to cooperate to this extent, so as to enable us to keep these staples in our line.

'Yours for victory,

'James Garwood, V.P.' "

I might say that this salesman added the following P.S. to his letter saying briefly but succintly, "Victory hell! For whom?"

COMMENT—This is a clear violation of No. 2 of the Federation's Creed. Mr. Garwood (and, of course, I have changed his name) might do a little serious thinking as to whether he could change his salesmen's rates of commission without negotiation or discussion had he been dealing with a *unionized* group. The answer is obviously "NO." So then I would ask Mr. Garwood, "Isn't it better to negotiate with your men *voluntarily* while you can?"

LETTER—"No sooner had I worked up my territory to a point where I could really make some money, when along comes the boss with a nice friendly after-dinner chat about how much more business I can do eventually with one-third less territory."

COMMENT—Here's another of the oldest of salesmen's complaints, that of cutting his territory as fast as he builds up his volume. So, he says, "What's the use of building?"

In this case, if that friendly after-dinner chat had been devoted to explaining how the company arrived at its potentials for each territory and how this identical yardstick applied to *every* territory, don't you agree with me that this man would have been better satisfied?

LETTER (from a sales manager)—"I assume the right as sales manager (and so tell my men) to designate certain dealers as house accounts. In reply to your inquiry, it is not always practical for us to set up such house accounts *before* a salesman's first solicitation, but we invariably advise him as soon as possible."

COMMENT—A violation of No. 6 of the creed. A salesman is entitled to know the rules of the game *before* he invests his time, not after.

LETTER—"I have not been able to spend a single summer vacation with my family in 12 years — summer being a lot more active month in our line than December. But this has been tough, with three youngsters."

COMMENT—Here is a case of comparing *dollar* values with *human* values. It is covered by No. 5 of the creed. I would urge this man's employer to consider whether it might not pay him to sacrifice some peak season business, if necessary, to enable this man to vacation with his family. I wonder if this same firm's union contract with their factory workers also specifies December vacations? I wonder.

LETTER—"It's not the waste of time attending those sales meetings. I just can't see why they have to be held on Saturdays or evenings. When the boys in the plant work nights they get time

*(Continued on page 42)*

2. Improve foremen's working conditions.
3. *Select* foremen more intelligently.
4. *Train* foremen more thoroughly.
5. Share management information with foremen.
6. Promote foremen more consistently.
7. Provide foremen with greater incentives.
8. Support foremen in their relationship with the men under them.
9. Avoid by-passing foremen in dealing with their men or shop stewards.
10. Give foremen greater stature and basis for pride in their positions.
11. Deal with foremen as an *integral part of management.*

This review of the situation regarding foremen is introduced solely to emphasize the following statement which is supported by our nation's leading authorities on industrial relations: namely, that if management had developed these wiser and more enlightened techniques for dealing with foremen 10 years earlier, *before* any threat of unionization, there would be no so-called foremen's problem today. We would be dealing with these supervisors as people, instead of attempting to resist their actions by legislation.

Now, as to relationship with salesmen, here are some of management's most common shortcomings:

1. Excessive paternalism.
2. Violating some of their own firm's basic policies to which their industrial relations or personnel departments rigidly conform.
3. Assuming the function of the sales executives to be only to get the business, with the *people* employed as salesmen to be merely *equipped* for so doing.
4. Refusing to learn from industry's bitter and costly experience in dealing with the so-called problem of foremen and supervisors in our production industries.
5. Dealing with salesmen as labor, while expecting of them the loyalties and sacrifices of management.
6. Indifference or fuzzy thinking as to the likelihood of unionization, not only of their own salesmen, but also of the salesmen of the most enlightened employers in their industries or areas.
7. Failure to recognize that any split in the loyalties of our nation's salesmen would impose a serious threat to our incentive system of selling which, as we all well know, is one of the cornerstones of our entire mass production economy.

This month, in the first installment of this article, I will aim to justify the above critical appraisal of management. Next month I will point out how unionization resulted in one line of business from man-

**and a half for their trouble, but I don't get a dime for those meetings."**

**COMMENT—You know the old saying that "a woman's work is never done." Well, some sales executives figure the same way with salesmen. My own feeling about this man's sales manager is that he would be wise to set up fair hours of work for his men and to hold his meetings within these hours. Then, if he finds himself in consistent need of overtime service, he might find it an economy, in the long run, to pay for it. Do you recall that our National Federation ballot results showed that only 7 per cent of sales managers pay for overtime? So, if the other 93 per cent (which would include most of you) want to continue their policy of *not* paying for overtime, let them exercise great restraint in demanding overtime of their men. The responsibility is *theirs* —and *yours!***

**LETTER—"Don't take my word for it. Just spend a few evenings around these small town hotels and watch some of those star salesmen filling out cards, reports, check sheets and writing letters to separate department heads, etc. After they get all through the rest of their paper work they start writing out their orders so as to remind themselves before they go to sleep that they've been doing *some* constructive work."**

**COMMENT—Do you remember that of all salesmen's gripes, the National Federation balloting showed Paper Work to be No. 1 in a walk? Reports are very nice for us to have, but when an unexamined pile of them accumulate on our desk they don't look so nice to a salesman. He thinks of that movie he might have been able to see if he hadn't had to get his report out that night.**

**A part of this problem stems from multiple department and branch executives and from the complexities of modern business. But, to the salesmen, reports are just a plain pain in the neck. I suggest that every sales manager *know* and *not guess* how much time each of his men spends on reports. When he finds certain men spending excessive amounts of time on reports, he should then help those men cut it down to what is reasonable and essential. Don't you agree?**

**LETTER—"My salesmen often turn down offers of promotions and I can't say that I always blame them either. There's not much extra money in our supervisory jobs and besides I am not so keen about losing a crack man from a key territory."**

**COMMENT — This sales manager's firm may need a careful job and wage analysis. Perhaps the salesmen are *over* paid. In either case the business loses whenever its successful salesmen cannot assume greater responsibilities without financial sacrifice. Show me a salesman who feels glued to his territory and I'll usually show you a salesman who is working more for himself than for his company.**

**LETTER—"I have sold goods for my company for over 20 years but they classify me as an 'independent contractor.' Quite aside from not getting social security, I don't participate in any of the firm's insurance pension or retirement plans. I know that I'm as loyal as any of their employees and it doesn't seem fair to me."**

**COMMENT—Some of you may consider this as a technical problem. But my mail indicated that it is of major importance. You should read some of these letters from men who *felt* like employees but who were not classified as such by the companies whose interests they represented. (Those boys *could* get together, you know.)**

**LETTER—"My kids won't be salesmen if I've got anything to say about it. During the war we have nothing to sell except 'smiles' and 'so sorries,' which pay me nothing over my guarantee. Now, just when I get set to make some money, along comes a brand new compensation plan which I haven't yet been able to figure out. I wish I'd been a machinist like my dad!"**

**COMMENT—Here again is an indication of the desirability of talking things over. Why not let your men play a part in evolving policies on such matters as compensation which concern them so vitally? Don't call it "negotiation," if you dislike that term. Perhaps the word "participation" may suit you better. But I prophesy that if it *isn't* participation, it *will* be negotiation, whether we like it or not!**

**LETTER—"My sales manager gives me the same mileage allowance for my car as he gives the boys with nothing but highways and flat country. In my case I've got the Rocky Mountains to buck, lots of unpaved roads, high priced gas, rapid depreciation of my car, and I**

agement's failure to read the handwriting on the wall, and will also give my approach to this problem of dealing with our salesmen.

My right to offer these criticisms comes first from my business experience in charge of distribution and sales of a manufacturing firm. It comes secondly from my experience during these past three years as chairman of the employment standards committee of the National Federation of Sales Executives.

Three years ago the Federation decided that the left wing tendencies among certain salesmen groups should be explored, and I was appointed to spearhead the job. To back me up I had a committee composed of one carefully selected man from each of the 57 sales executives clubs affiliated with the Federation, which included every important metropolitan area of the nation.

By developing a series of reports from each area, which entailed voluminous correspondence, we evolved a ballot covering the most essential questions of policy. Tabulation and group discussions of the ballot returns in each area gave us an accurate appraisal of the employment practices of well over 2,000 sales managers throughout the nation.

Next we had to determine which employment policies could be considered sound and which unsound. Those practices and policies which were most universally recognized as sound were then expressed in the form of a carefully drawn creed. This creed has not alone been adopted by the National Federation of Sales Executives, but by other employer groups as well.

As chairman of this committee, I received a great number of confidential letters from both sales executives and salesmen, and a few excerpts from certain of these letters are reproduced herewith. Names and other identifying factors have been omitted to protect the highly confidential nature of these letters, and in some cases the language has been rephrased for the same reason.

Along with each letter is given my own reaction to the individual situation. Next month I will present my conclusions as to how employers may best avoid another experience comparable in many ways with their recent bitter problems in dealing with foremen.

Mr. Heyneman has engaged in extensive research into the employment conditions of salesmen, through his work as chairman of a special nationwide committee of the National Federation of Sales Executives, and also because of his long personal experience as an industrial executive and part owner of a manufacturing business. He is being currently called upon to present reports of the situation as he has found it before organizations of sales managers throughout the country. These appearances include the fourth annual Ohio Sales Managers' Conference in October, the St. Louis annual Conference of Sales Executives and the Milwaukee Sales Managers Association Clinic.

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**still get the same 4c as the boys in Texas. That doesn't seem right to me."**

**COMMENT—With all of the published data on equitable auto allowances, isn't it strange that this should continue to be such a source of irritation? Yet, it *is* and it *will* be until sales managers know as much about each of their salesmen's auto costs as production managers now know about their production costs.**

**LETTER—"In my last selling job I expected to collect $800 in commissions over my drawing account. But the sales manager points out to me that I was more than that in the red from the previous year. This was correct, but I never knew that they carried this along from one year to the next. I had nothing in writing and neither did he, so finally we compromised by him paying me $400 instead of $800, but then I quit because I don't like that kind of indefinite business."**

**COMMENT—Violates No. 10 of the creed. One-third of all sales managers conceded in the Federation balloting that they had no written confirmations covering their understandings with salesmen. I wonder what happens amongst their one-third when a misunderstanding develops? Probably a disgruntled salesman, I guess, or perhaps a law suit. But—and this is important—*invariably* a salesman who feels a little less a part of management than he did prior to the misunderstanding.**

**LETTER (from a sales manager)—"My salesmen all work on straight commission and I have never yet paid any man a nickel while being trained. After all, if I am willing to spend several hundred dollars in time and equipment teaching them this business, the least they can give is their time. I claim that this is what makes our good American free enterprise system work. Nothing ventured nothing gained."**

**COMMENT—A violation of No. 1 of the creed. This may be the spirit of 1776 but certainly not of 1947. Those employers who still expect sales trainees to work at their own expense may prove to be the most vulnerable to union organization.**

**LETTERS—"How the office arrives at their quota figures beats me. None of our men on the road can figure this out."**

**COMMENT—A violation of No. 11 of the creed. The Rube Goldberg quota deserves no place in a modern compensation plan. I would think that the validity of any quota which cannot stand a goldfish bowl examination by the salesman, should be seriously questioned.**

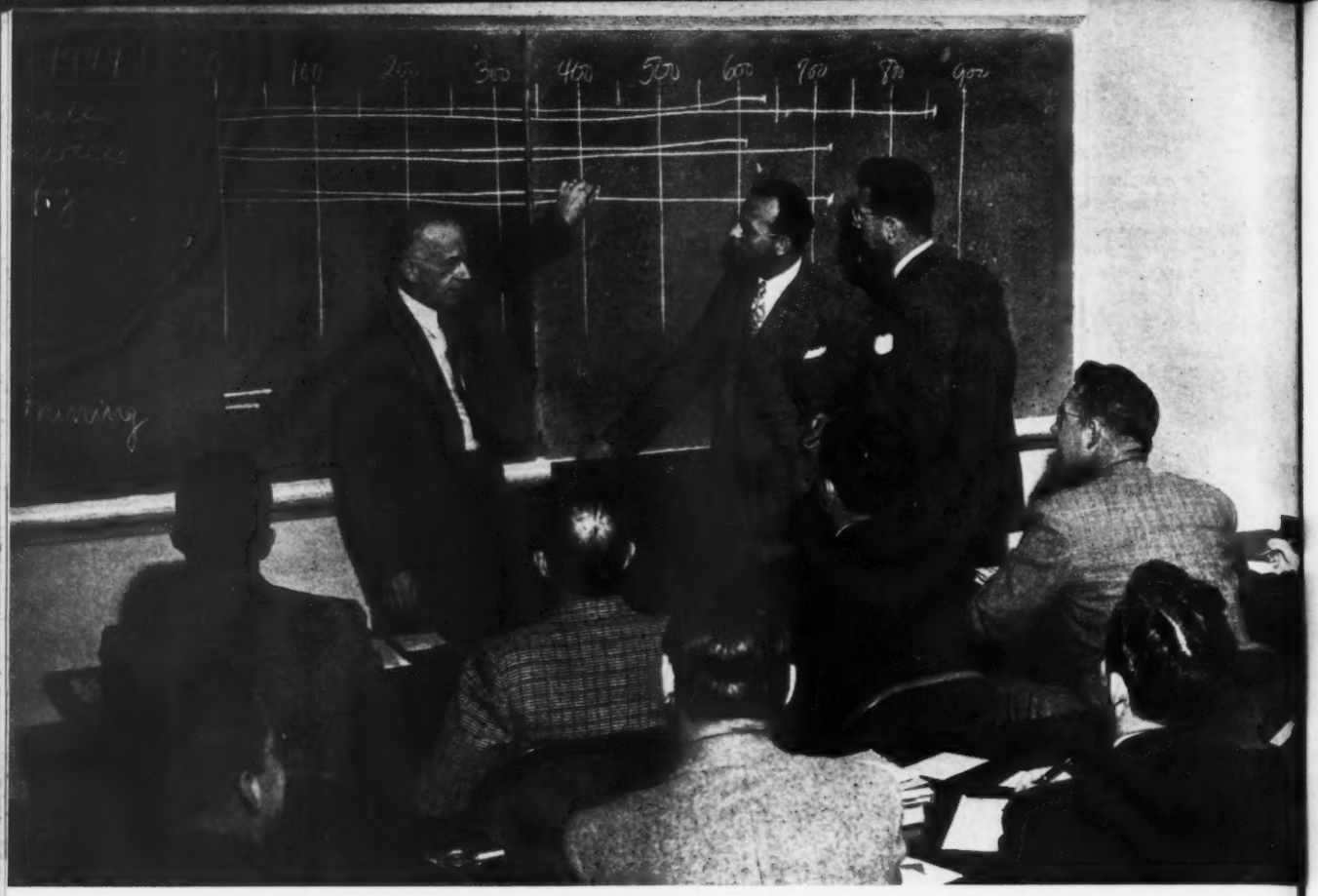
**LETTER—"The owners of this business are wonderful people. But they don't realize how hard most of us men on the road battle for them and that hours of the day or night don't mean a thing. I know they don't realize this or they wouldn't stand for all the inferences and whispering campaigns in the sales department about how some heads are going to roll unless we reach a certain figure."**

**COMMENT — I don't think that there's much of this "or else" sales management right now. Yet, don't you agree with me that it will reappear, and perhaps sooner than we expect? Of course, all of you (except those in that minority category) know that whenever a sales manager uses fear psychology to get results from his men, he demonstrates his own weakness. He proves the need for better selection and training methods (and confidentially, perhaps the need for his own resignation).**

**LETTER — "My sales manager showed me your ballot where you ask him whether the salesmen like contests. So, I am writing to say that I've won one of the top places in every contest my firm has had, but I hate them. If it was a case of competing against my own figures it would be O.K., but our contests are always races of some kind between the men — so you can't win yourself without appearing to show up someone else. Please keep strictly confidential."**

**COMMENT — This only goes to show that salesmen are people and people's minds and temperaments are not standardized. Some salesmen actually don't like to be set up as race horses in the Big Boom Mfg. Co.'s sweepstake contest. Such men may *pretend* to get into the spirit of the thing to please the boss or win a prize, yet, they *may* be harboring certain resentments while doing so.**

**Realizing that this is a highly controversial matter, my only point in bringing it to your attention *now* is because when such men sense a loss of personal stature, they also feel themselves to be less a part of management. So it is *this* phase which I feel deserves some very careful research.**



*Pictures show adult education classes, School of Management, Golden Gate College.*

**• Small plant managers must get together to exchange ideas and experience on common problems. Management education leads way.**

# A New Calling: Small Plant Management; Education Vital

***This is the sixth and final article in a series by Mr. Thorpe dealing with production problems in the small plant.***

By C. LLOYD THORPE
Instructor of Production Management and Production Control, School of Management, Golden Gate College, San Francisco

SOMEWHAT less than two centuries ago there was no manufacturing problem. That was because—to draw from the naive logic of Lewis Carroll—there was no manufacturing. At least, there wasn't the kind of manufacturing with which we are familiar today.

But along about the time of our American war for independence, the seeds of another upheaval were being sown. The textbooks tell us this was called the Industrial Revolution. Historically both of these began in the 1770's. Our own little fracas with mother country England was successfully concluded in a very few years. However, the Industrial Revolution, being essentially economic, proceeded as a chain reaction to usher in, for good or ill, the machine age.

There are those among us who argue that the Industrial Revolution is still with us; that as TIME is measured across the ages, these 150 years since its origin are really nothing at all; and that the present problems which our industrial civilization faces are those of growing pains and not too much more.

Well, it is not my intention to become too philosophical about it, but I introduce the idea of immaturity because it could explain a lot of things that happen.

For example, as recently as October 8 the Pacific Coast edition of the Wall Street Journal carried the following statement under the heading "Auto Capital Breathes Easy as Walkouts Drop Toward Five-Year Low—Company Officials and Labor Leaders Have Different Explanations for Trend."

> "Thomas Thompson, who heads the Ford UAW-CIO local 600, the largest local in the world, gives two reasons why little time has been lost by Ford production workers because of strikes this year. 'A greater effort is being made by management to sit down and negotiate problems across the table with us,' he says. 'The other reason is that our people are maturing. Ours is a young union; with age comes experience'."

It is not impossible to conclude that he missed a possible major point with regard to the first reason he listed: immaturity on the part of management may have prevented the 'sitting down to negotiate' idea.

Getting back to the Industrial Revolution, it is important to recognize the situation as originally a revolution in manufacturing. It is equally important to understand that it caused, or greatly contributed to, a concurrent social revolution. It thus became entangled in the child of its own

creation and the resulting social-economic snarl became impossible to disengage.

The position of the worker, for example, will explain what I mean. When in this original period the workers were brought into the factory, the relation of the employer and employee took the heavy overtone of the prevailing culture of the times.

That was the period when there still existed in varying degrees the conditions of slavery, feudalism and militarism. These got all mixed up in the employer-employee relationship. We are still paying a heavy penalty for the unenlightened start in what is just now becoming the important concept of human-relations-in-industry.

The factory system, along with other things, carried the impact of mass: mass production, mass employment. The virtually unlimited original market made *price* of secondary importance. Manufacturing cost was also of secondary importance. While it is admitted that there was "cost consciousness" it appears to have been directed at an elementary drive for lower product cost based on lowest possible labor wage rate cost and lowest procurement cost.

With manpower cheap and available, and with no background of industrial experience to promote the general welfare, it is no wonder that the first years of manufacturing centered on a broad-gage policy of "get it done — no matter how — but get it done."

There was about 100 years of this with very little being accomplished to change the by-that-time-established pattern of manufacturing. Then, just at the turn of this century, there entered the American industrial scene certain pioneers in the field of what became known as "scientific management." Again, it is important to note that their original contributions were in the field of manufacturing.

No discussion of the subject can even be started without at least a statement regarding Frederick W. Taylor, the "father of scientific management." His contribution to the modern industrial enterprise has been monumental, for he had the vision to inquire by mind and by action as to the reason for then-existing methods of manufacturing and as to the possibilities of employing new techniques.

His work started a little over 50 years ago. Shortly before his death, he published in 1911 a book called "The Principles of Scientific Management."

Regarding his classic pig-iron experiment of some 20 years previous, he had this to say: "Once we were sure that 47 tons was a proper day's work for a first-class pig-iron handler, the task which faced us *as managers* (italics ours) under the modern scientific plan was clearly before us.

"It was our duty to see that the 80,000 tons of pig-iron were loaded on the cars at a rate of 47 tons per man per day instead of 12½ tons, at which rate the work was then being done. And it was our further duty to see that this work was done without bringing on a strike among the men, without a quarrel with the men, and to see that the men were happier and better contented when loading at the new rate of 47 tons than they were when loading at the old rate of 12½ tons."

Notice the heavy implication of the fundamental obligation of management to include a human relations evaluation in the plan of action. Pioneering! This was a new concept! What a tragedy to our whole western civilization that such an implication had to be delayed for over 100 years! What weeds we have allowed to grow in our so-fertile industrial garden that management must now at this late date seek to remove!

Certain industrial organizations were quick to see the possibilities of at least some of such ideas and welcomed them. By the year 1914 scientific management was here to stay. Manufacturing, it appeared, was finally going to get the real direction and assistance it required.

The emphasis apparently was finally to be placed on improvement in management and in method, with production being done to a plan. To the harrassed production man this might have sounded awfully good, but before it could bring him relief, a gun went off in Serbia and the first World War was upon us.

Well, that was 33 years ago. Since that time there have been two world wars, each with unprecedented demands upon the manufacturing capacity of this country and the world. There have also been two depressions of severe and dislocating proportions with respect to our manufacturing potential.

Only 33 years. Not a very long time for management to become thoroughly enlightened. Probably it is too much to expect that even a fair proportion of present-day managers would be enlightened. For management the argument may be raised that, like the labor leader quoted previously, "the reason is our people are maturing. Ours is a young (management); with age comes experience."

It is no wonder, then, that our present adjustment from war economy to peace economy finds the managers of many small manufacturing plants still unwilling to accept the implications that they will not be able to escape much longer: that there is always a better way to do a given job, and that eternal vigilance is the price of manufacturing management success.

In terms of material things, the desperate need of the world is an increase in productivity as the one solid answer to the problem of inflation and world distress that besets us. To get it to the consumer better and cheaper, in spite of rising costs, is a basic necessity of the hour. The battle of production will save the type of world for which this war was fought by us. Manufacturing management, then, will have to accomplish this next miracle.

One premise of this series of articles has been that a large segment of Western small plant management is not equipped to contribute positively to such a program. An editorial in a recent publication put it this way: "The Ford Motor Company's efforts to switch the purchase of $50,000,000 worth of parts from Detroit to the Pacific Coast . . . will have to shift into low gear in the same place that General Motors already has had discouraging experience, namely, the failure of most manufacturers in the West to operate on a production basis." More directly on the same subject in the same issue there appeared the comment, "Probably the chief obstacle is the lack of Western manufacturers who understand production well enough to turn out parts at the low prices necessary to get

# A New Calling: Small Plant Management

*(Continued from page 45)*

the business."* Other large national buyers are in the same position of wanting to give orders to Western manufacturers who are not in a position to make the products profitably for the reasons stated.

This situation will not be alleviated until proved methods of scientific management permeate our Western industrial organizations. Out of personal experience with the managers of many of these organizations has come the conviction that they are not now potential "scientific managers" and will never be until management education is available to them on their level.

Many of these persons are sincere, hard-working and very harrassed executives who are conscientiously trying to do a good job for their customers, their employees, their principals and themselves. They are finding the going increasingly difficult. They need help. But help is not readily available to them.

I know it is difficult to square this last statement with the fact that one large Western university held a conference on business last summer and had no registration from the small plants in its immediate vicinity. From hundreds of miles away some large organizations sent representatives because they recognized the obvious merit of such a contribution to the management education of their top personnel.

Yet the local managers of small plants, who could have arrived at the scene of this conference in a matter of minutes, did not appear at all. What can account for what seems to be plain indifference on the part of small plant management?

### Small Plant Problems Are Different

Well, in the opening paragraphs of the first article of this series, the following point was made: "Underneath, the small-plant men believe that their problems are different because of their size, and that not too much help is available to them from previous sources. This may be an evidence of serious shortcomings on the part of such management, but no matter. Because so long as this attitude exists in the minds of these persons, it will also exist in their respective plants."

That, I believe, is the tip-off to the whole problem. It is my considered opinion that the education of small-plant management will not proceed on a really effective basis until:

1. These managers are made aware of the fact that management (particularly and emphatically small plant management) is a profession, and that it can be improved by education. This will require more than just statements of fact, it will need proof. Therefore, it will necessitate a selling technique based on demonstrable results.
2. An educational program is presented to these managers that will be so adequate these men will want to "sink their teeth" into it. To whet such an appetite, it will have to be:
   a. Pragmatic, realistic, aggressively useful.
   b. Presented at the management level.
   c. Arranged to gear into the schedule requirement of busy executives.

This proposition is not entirely new. In the East and Middle West some institutions are successfully educating management on a management level. For example, The Harvard Business School has embarked on an Advanced Management Program "to meet a need."

Accordingly a 13-week all-day schedule offers a concentrated course of study in appropriate subjects. "But even more important," says the school, "it offers to men who wish to grow in their jobs and in their companies the opportunity to think to the limit of their mental capacity, free of business exigencies and other distractions. Furthermore, it offers them associations with other selected men of a great variety of business backgrounds . . . and the chance to interchange information and ideas. It also offers them the stimulation of contacts with a faculty that, because of the very nature of the teaching methods used, must keep abreast and even ahead of business developments."

The University of Chicago has created "The Executive Program" with stated objectives as follows:

(1) To provide an understanding and interpretation of business institutions and processes and those factors which underlie and affect them.

(2) To develop techniques of reading and habits of orderly thinking and of effective reporting of conclusions both orally and in writing.

(3) To develop facility in the managerial uses of economics, accounting, and statistics.

(4) To develop an appreciation of the growing importance of public regulation of business and to provide a basis for an understanding of governmental policy.

(5) To provide training in the methods of solving problems of business organization and policy in the various fields of business management, such as production, personnel, marketing and finance.

This Executive Program is a two-year course held two evenings per week. According to those responsible for the program, "The success achieved and the enthusiasm of the first three executive groups insure to the Executive Program a permanent place in the University program of business education."

The University of Iowa offers each summer a three-week all-day Management Course with primary emphasis on the technical side of management. Such items as motion and time study, job evaluation, wage incentives, production planning and the like are subject matters. This program has made a most signigficant contribution to American manufacturing.

These and some few other institutions are pioneers who apparently are meeting a need. Maybe they are bellwethers to lead us into some full-scale management education programs in this area.

### Can We Educate Management?

Will local management, particularly small plant management, accept the challenge of such programs adequately presented? I do not propose to know the answer, but I believe that increasing pressure will be placed on educational institutions to approach the problem of educating management from the management point of view.

This is no small task. It may require a job of evangelism instead of one which places education on a "take-it-or-leave-it" basis that is so conventional with our higher education these days. There is a difference between evangelism and promotion — whether the latter is dignified and "correct" or simply high pressure.

It seems to me that those who would serve small plant management in this area may have to look to men like Paul of Tarsus for techniques that will work. Almost 2,000 years ago Paul faced a similar situation: he had a message to give to people in need (so he thought), and they didn't know they needed it. Instead of waiting for the awakening of men to the consciousness of their need, he just started out to find them and tell them about it. He had a lot of faith in that message he was carrying and he reasoned that since his time was short, if he got the message to enough people the rest would take care of itself. It did.

A premise in these articles is that our time may also be short. Certainly there is enough evidence to justify this statement without taking time to develop it here. And if it is conceded that our world of work is primarily a social situation with all the broad implications of human relationships in an industrial democracy, then it is of more than academic interest to improve the management of such a social situation—particularly if the time is short. I have come to the conclusion that it is just about the most important problem facing our industrial society today.

The final point I would make is that the successful education of small plant management so that they will aggressively pursue their larger social task can only result in further assurance that our industrial house is being built on the solid foundation that will endure.

**Western Industry*—April.

# Planning Storage For Mass Production

**Factory efficiency interlaced with sound storage practices, which cannot be developed by guesswork**

**Wherever materials are to be handled, there some business organization is either making or losing money, perhaps an amount large enough to mean the difference between profit or loss on the entire operations of the company. For that reason, "Western Industry" provides a continuous editorial service to its readers on materials handling developments and problems. The accompanying article is another of "Western Industry's" regular features on the subject of materials handling.**

By NEIL DRAKE
Western Manager
Drake, Startzman, Sheahan, Barclay, Inc.
Distribution and Materials Handling Consultants

IN WESTERN industry today, storage should be a highly developed science. Between the purchase of raw materials and the delivery of finished products, storage is the most often repeated phase of industrial operations.

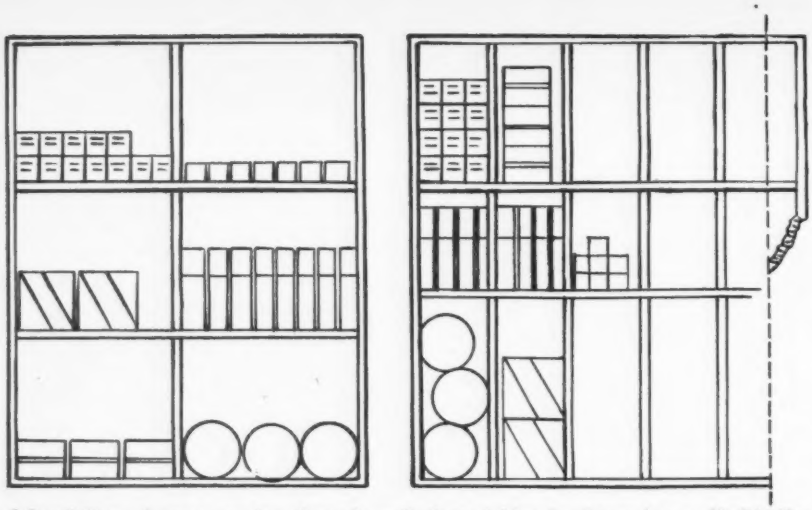
The recent swing of Western industry to mass production has brought to many managements storage problems they have never before faced. Plants now must store a multiplicity of parts, assemblies, materials. They must stock a balanced line of finished goods. And storage, in many cases, must be done in present buildings, for high construction costs preclude erection of new facilities.

Manufacturing is so interlaced with storage problems that factory efficiency depends in large part on sound storage planning. All materials — raw, semifinished, finished—must be stored except when they are actually being processed or handled. Thus the planning of storage — of the amount of space needed and the locations to be used—is an integral part of mass production.

Storage problems can be solved. But they cannot be solved by guesswork or afterthought. Plant congestion can be eliminated by the planning of storage, coupled with efficient handling and control of materials.

Storage may be considered no longer as an inert condition. It is not a necessary evil; it can be a means to improve production and service to the market. Whether materials come to rest in storage for half an hour or half a year, the attendant problems must be approached with the objective of producing in conjunction with the handling function the optimum time and place utility. The same sort of talent which

**• (Left) Here racks are used to divide the storage space. Upper sections are reserved for slow-movers, the lower section for fragile fast-movers. (At right) Use of two-direction storage in this warehouse results in a very good use of the available space.**



**• Possibility of space saving through well-planned bins is shown here. (Left) Bins are too large for quantities and items stored. (Right) Subdivision provides extra space.**

is employed to design and plan the production steps must be applied to the storage phases of any operation.

### The First Step

The first step in the planning of storage requirements is a decision as to what level of stock — whether raw materials, semi-finished products, or finished products— is to be maintained at any location. Sound storage principles must be applied to the accommodation of this stock level, whether it is to serve a production line or a market.

Some industries can serve their production and their customers adequately from an inventory based on from 10 to 14 days of average consumption. Others require 90 to 120 days' stock. Production economy frequently dictates that a six-month to one year's supply be manufactured at one time on some items.

To compute storage space requirements or facilities, it is necessary to begin with a forecast of sales. This estimate must be sufficiently detailed to permit a computation of the physical size of the stock of each item, whether a raw material, a component, or a finished product.

In cases where such an estimate proves too low and additional space is not available, storage can sometimes be managed by a reduction of the stock level. In other words, the size of the stock would not be changed but it will serve production or the market for a shorter period of time. When a level is lowered, however, the control of inventory must be correspondingly tightened.

The test of good inventory control is the speed of reaction to any change in the sales situation. If production is tied to sales, an increase in sales which reduces the stock of an item should be reflected immediately in increased production and a stepping up in deliveries of raw materials or components. Where production is maintained at a constant rate, regardless of variations in sales, the finished goods inventory picture becomes more complex and experience data becomes all-important in storage planning.

Sales estimates should be related to the stock level for each item on the bills of materials and in the finished products line. Estimates should then be translated into cubic feet and net square feet of storage requirements. The conversion of cubic feet to square feet should take into consideration such building characteristics as ceiling heights and floor loads. A compilation of the results will be the number of net square feet required to store the level established.

This level of stock, however, is a theoretical objective. It can rarely be maintained in balance under actual conditions. Stocks of both raw materials and finished products will vary above and below this figure. Other factors, therefore, must be considered before any planning is based on such data.

### Experience Statistics

Experience statistics as to the range of stock variation, both above and below this level, are of primary importance. Storage space must be planned to accommodate not the average stock which is anticipated but the maximum stock which may reasonably be expected to be on hand at any one time. This experience data should reflect production policy, seasonal sales variations, and the degree of sensitivity of the inventory control system.

The net square footage required to stock the desired level should then be increased by the percentage of variation which available statistics indicate must be anticipated. Frequently, however, this result may be tempered by a better system of inventory control or adjusted to allow for an altered policy relationship between purchase of raw materials or components and production, or between production and sales. It will be found that sound storage planning can be projected no further into the future than sales can be reliably forecast.

Any computation of storage requirements must recognize special conditions which are important. The first is a requirement for bin or shelf stock. The second is the need for a sample or model stock established to expedite shipment and reduce order-filling time. Computation of proper bin sizes is a science in itself and is worthy of detailed study. Precision development of bin sizes can yield substantial benefits in the form of reductions in floor area needed. Planning for these additional requirements should follow the same procedure as for the bulk or reserve stock; the same principles should be observed.

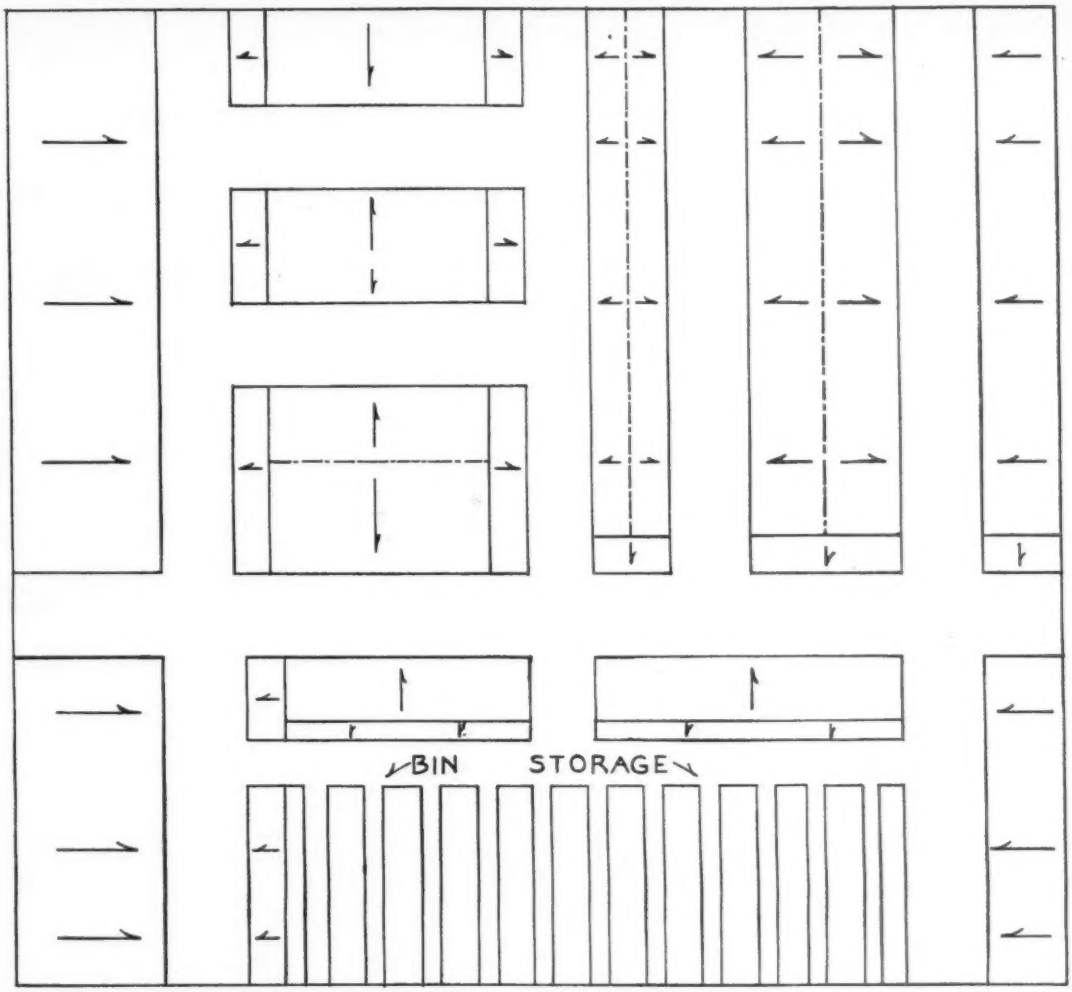
The computation of aisle space needed to serve the net storage area is generally controlled by three factors: (1) the materials handling equipment which is to be employed, (2) the volume of traffic anticipated in each area, and (3) a compilation of lot sizes to be stocked in terms of cubic and net square feet.

The type of materials handling equipment to be used will usually determine the width of aisles. This must, however, be tempered by the traffic requirements for the passing of materials handling equipment. One-way traffic aisles are frequently installed to reduce aisle widths.

The number and length of aisles will depend on a breakdown or classification of the material to be stored. This breakdown of lot size should be computed on the basis of cubic feet and square feet required for the established level of each item. If storage is planned in unit or pallet loads, it will often be convenient to compute the stock level of each item in terms of such loads. This consideration of lot sizes is imperative if the storage space is to be tailored to fit the characteristics of the stock. In addition, allowances must be made for the maximum percentage variation anticipated which was developed in connection with the computation of net storage area.

Storage depths (i.e., distance from the rear of a stack of any given item to the aisle) of various sizes should be provided to accommodate the different size lots and in the proper proportion. In planning storage, it is important to remember that any storage area not adjacent to a wall is an island surrounded by aisles and that there are four possible storage directions which can be arranged into four different storage depths. The floor area devoted to aisles will, of course, vary with number and size of lots to be stored, if accessibility is to be maintained.

Most plants encounter their greatest storage difficulty in accommodating small or odd lots. They frequently waste great expanses of floor area in providing accessibility to those lots. Usually the use of racks or box pallets will solve this trouble and permit full use of overhead space. In some cases, racks can be built to accommodate pallets so that a number of lots may be stored in one tier, each immediately accessible. Some well-managed plants ac-




**A WELL-PLANNED STORAGE LAYOUT WHICH PROVIDES AREAS FOR VARIOUS LOT SIZES**

**(Arrows indicate storage direction)**

commodate these small lots by reserving two of the four storage directions in the "islands" for them. Whenever possible, an item should be stored in more than one row both to permit stock rotation (use of oldest material first) and to allow for faster release of unused storage space.

Generally speaking, bulk storage space should never be specifically allocated or reserved for the entire stock of an item. It may be desirable, however, to reserve a given area for a certain type or classification of stock. This principle does not apply to bin storage or a sample stock established for selection purposes. In the latter case, the placement of specific items should be under continual review to detect changes in item frequency factors.

The placement of the various items in storage — whether raw, semifinished, or finished products — is extremely important from the standpoint of handling costs. The objective is to reduce the travel distance of items in greatest demand. They should be placed near the point of use or shipment. A simple test for placement efficiency is to plot the travel or flow of these items on a plan of the plant. The path of the heavy-volume items, from point of receipt to storage area to point of use or shipment, should be as close as possible to a straight line.

A common error in most industrial storage operations is to arrange stock in some arbitrary alphabetical or numerical stock sequence to simplify location. Such systems are costly in terms of wasted space because the storage depths are determined by the depth required for the smallest lot. This results in an excessive requirement for aisles. It violates the fundamental principle that storage depth rather than width should be the governing variable. Few storage layouts can be efficiently planned on the basis of a single common denominator of storage depth.

Storage layout must be engineered on the realistic premise of a number of storage depths in proper proportion to the lot sizes, giving consideration to item characteristics, such as frequency of demand. Under this system of storage, based on lot sizes and designed to produce a maximum utilization of the space available, a simple location record should usually be kept so that orders may be filled efficiently and delays in production or shipment avoided.

No storage system is perfect. There are few which cannot be improved by diligent study. The best system is the one which provides the maximum net accessible storage from a given gross area and results in a minimum of operating cost.

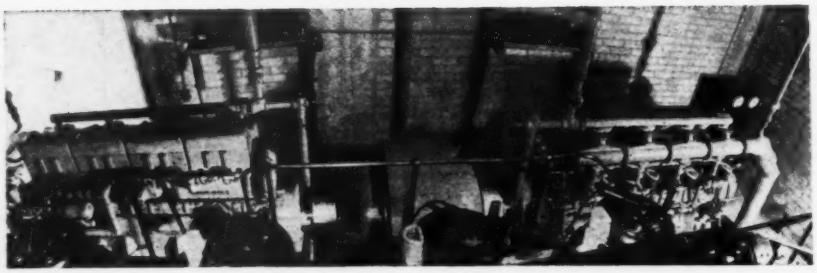
**NEW PRODUCTION TECHNIQUES**

# Gas versus diesel; Two-way boring mill; Heat treating iron

WHEN growing power requirements demanded additional standby facilities at Needles, Calif., the California Pacific Utilities Company found a way to triple generating capacity without the expense of new fuel storage tanks or buildings. The answer was a generator powered by gas engines instead of diesel, which the company had utilized.

The use of gas first suggested itself because the company distributes propane gas in the area, and the supply and storage tanks were already on hand. Then it was found that gas engines and generator could be built to fit the space available in the same building that housed the diesel powered generators, a floor space 7′ 3″ x 36′, less allowance for a 9½′ door—an area too small for a third diesel.

Furthermore, gas engines could be started simply by pushing a button, while diesels required compressed air for a starter—an advantage of considerable importance, particularly in an area subject to frequent electrical storms.

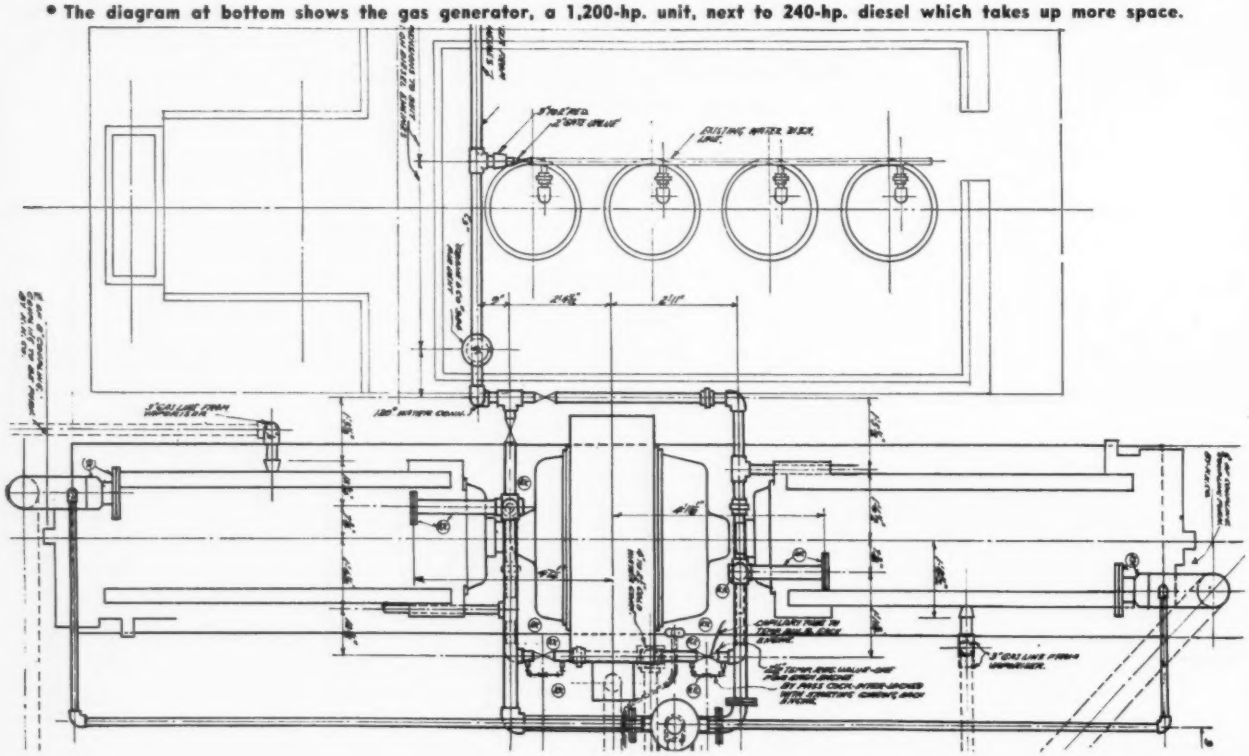


• This gas-driven generator fits into such a small space it is impossible to get a single photo of it all. Here are two shots put together, taken from atop the diesel.

The Sterling Engine Company tackled the job, and proposed a pair of 600 h.p. natural gas engines powering a single 875 kva generator (double the capacity of existing facilities and requiring less than half as much room). The single generator simplified operation and installation, done by King-Knight Company of San Francisco, and the complete cost came to the reasonable figure of just under $40 per kw.

Completed in 1945, this unit has operated so successfully that Sterling is making

• The diagram at bottom shows the gas generator, a 1,200-hp. unit, next to 240-hp. diesel which takes up more space.



another one for California Pacific's Winnemucca, Nevada, utility. One emergency at Needles called for a continuous 10-hour run on the line with the gas-powered standby delivering 850 kw. continuously for two hours out of the 10.

In order to meet floor space requirements, Sterling chose two Viking II 8-cylinder 8x9 engines, placed end to end with a General Electric 875 kva. 1200 rpm. alternator between the two engines and connected by means of specially designed couplings. Actual engine-generator base overall dimensions were 6'x28' including generator. The couplings provide for disconnecting either engine while permitting single engine operation if necessary. Excitation is furnished by an auxiliary m.g. set.

Exhaust stacks carried outside the building incorporate a heat exchanger for vaporizing the propane prior to admission to the Ensign gas carburetors at the engine. Temperature control in the heat exchangers is effected by bleeding a portion of the raw cooling water into the exhaust lines.

Engines are controlled by a dual panel system. The engine panel proper contains starting switches, choke and throttle as well as alarm system indicators and manifold pressure indicators. A single throttle control on panel 1 of the main switchboard is used to synchronize the engine-driven alternator when throwing onto the line. Load division between the engines is obtained by regulating remote engine throttle control at the engine panel to bring manifold pressure readings equal.

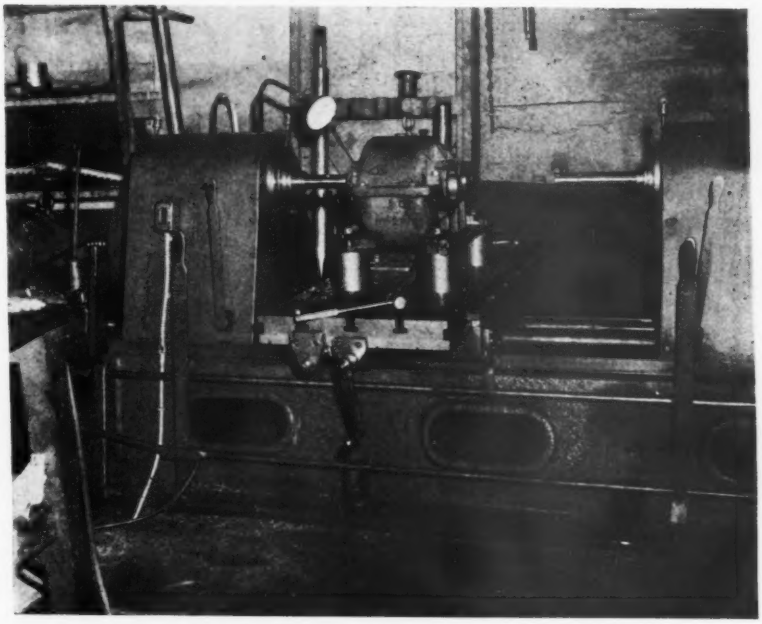
BY designing and building a double-ended boring mill at their Seattle plant, Western Gear Works were able to eliminate idle time and cut operating time.

One boring operation is accomplished while the operator makes the setup on the other side. On completion of the first boring operation the work is moved across to the other boring bar while the operator changes the first setup. This means that there is no idle time—the machine is always at work and the operator is busy making a setup.

On the ordinary mill, either the operator is busy on the setup or the machine is running, but never together. On one job alone, which formerly took half an hour, time was cut to five minutes. Other jobs showed substantial time savings also.

The machine is particularly useful in boring speed reducer cases for the D-48's to 56's, but can handle any job up to six feet wide and to 12½ inches in center height. Boosting its efficiency is the quick transverse bed which has been incorporated in its design. Its spindle speed operates up to 800 rpm.

Western Gear credits workmanship to Hal Blake, Al Solberg and Jake Johnson of Seattle.



**• This double-ended boring mill eliminates idle time, cuts operating time.**

INFORMATION on heat treating cast iron was recently supplied Gabilan Iron & Machine Co., of Salinas, California, by the Technical Advisory Service of the U. S. Department of Commerce, through W. Wallace MacLean, director of this service for the San Francisco office. The inquiry came from J. C. Renault, general manager of Gabilan, who asked for data on methods of heat treating, hardening or case hardening of cast iron.

One report came from H. A. Schwartz, manager of research, National Malleable and Steel Casting Company, of Cleveland, as follows:

"Any cast iron containing graphite can be hardened throughout by heating above the so-called $A_1$ point, and quenching in oil or water. The $A_1$ point is a critical temperature in the neighborhood of 1300°F, and temperatures between 1400°F and 1450°F are ordinarily selected for hardening.

"Since every part of the casting which has been heated will be hardened, the only way to harden locally is to heat locally. The simplest way to do this is by one of the well known methods of induction hardening. Processes involving the dipping of the casting into a highly superheated lead or salt bath for a time so controlled that the heat penetrates only the desired distance, can sometimes be worked out.

"Some engineers have worked with processes involving the spraying of the inside of a mold with materials containing chromium. These materials dissolve in the surface metal when the casting is poured and harden the outer surface. In the case of gray iron, chilling the surface to promote rapid cooling is another solution. Both the two last mentioned procedures are, however, related to the making of a casting and not to its heat treatment after it is made."

From V. A. Crosby, district representative at Detroit for Climax Molybdenum Company, came the following information:

"Cast iron can be softened satisfactorily by an annealing treatment similar to that used for steel. It may be hardened by quenching from above the critical temperature in oil or water; it may be likewise hardened by the flame process or the induction method.

"The limits of hardness obtained in ordinary pearlitic gray cast iron would be in the range of 50 to 54 rc. In most applications where hardened cast iron finds a use the hardness specifications after a quench and temper procedure is in the range of 42 to 48 rc.

"In regard to case hardening of cast iron we would advise that the process can be accomplished satisfactorily by heating the part in a cyanide bath at 1600°F for a period of 30 to 40 minutes. There are some applications where this treatment is applied to cast iron timing gears. A superficial case of .020 hardened layer is produced that seems to have exceptionally good wear resistance for light loads.

"In conclusion I would refer your client to an article which appears on pages 397 to 422 of the Transactions of the American Foundrymen's Association, 1939, which deals with the various factors involved in the hardening and tempering of gray cast iron. A careful study of this article will provide your client with all the necessary information on the subject which he has referred to you."

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.

# U. S. Nickel-Nursing Sells the West Short

***Can private capital rescue those suspended projects so necessary for Western industrial development?***

By ARNOLD KRUCKMAN
Washington D. C. Editor of
*Western Industry*

WASHINGTON, D. C.—The imperative need to save public money, reflected in the pressure on Congress by the voters and, in turn, by Congress in its reluctance to appropriate all the funds the Federal Departments demand for power projects, reclamation, and similar undertakings in the West, is developing in the Congress itself a very definite trend towards an attitude that wonders why private capital cannot do what public funds should not be used for, under the present conditions of strain and stress.

Senator George W. Malone, of Nevada, probably struck the keynote of Congressional thinking when he said in a public talk:

"There is more private money in America for investment in feasible projects throughout the world at this time, and more trained technicians to work on projects at home and abroad, than ever before.

"Just by respecting the integrity of the private investments of our citizens in the same manner as we respect and protect the investments of the nationals of other countries, we could get ample private financing for domestic undertakings, as well as for the rehabilitation of Europe. The trouble is that there has been so much uncertainty about restrictions and prohibitions at home, and about the totalitarian ruthlessness in Europe and elsewhere, that private capital has not been justified in taking chances.

"To my mind it is high time to bear in mind that when Congress appropriates money, often simply called loans for the sake of euphony, the administration arranges the expenditure through political henchmen or defeated politicians. Often, no one, least of all the political administrator, knows where most of the money goes, after it is gone.

"When money comes from private investors, they send highly trained and experienced men whose reputation is riding on every bolt, rivet and piece of steel going into the plant, and when it is completed it is usually a successful job. All private capital asks is to be allowed to take the business risk without the danger of some legislation which introduces the peril of confiscation, or something perilously like nationalization of the invested capital.

"Congress does not know how to lend money; it only knows how to give it away.

"Private business not only knows how to lend and invest money, but it also knows how to collect it and to make the investments pay dividends."

### A Practicing Engineer

Whenever Senator Malone is introduced at public gatherings the chairman invariably says that he is the only practicing engineer in the Congress, either in the Senate or the House. There are other engineers in Congress, but it is a long time since they have practiced their profession.

It is not even widely known in the West that Senator George W. Malone, as state engineer for Nevada, secretary of the Colorado River Commission of Nevada, and as vice-president of the National Reclamation Association, in 1929, assembled and prepared the extraordinary document known as Senate Document No. 186. At the instance of one of his predecessors, Senator Tasker Oddie, Senator Malone put together this amazing compendium of information about all Colorado River investigations, water storage, and power development, from the Grand Canyon to the Imperial Valley.

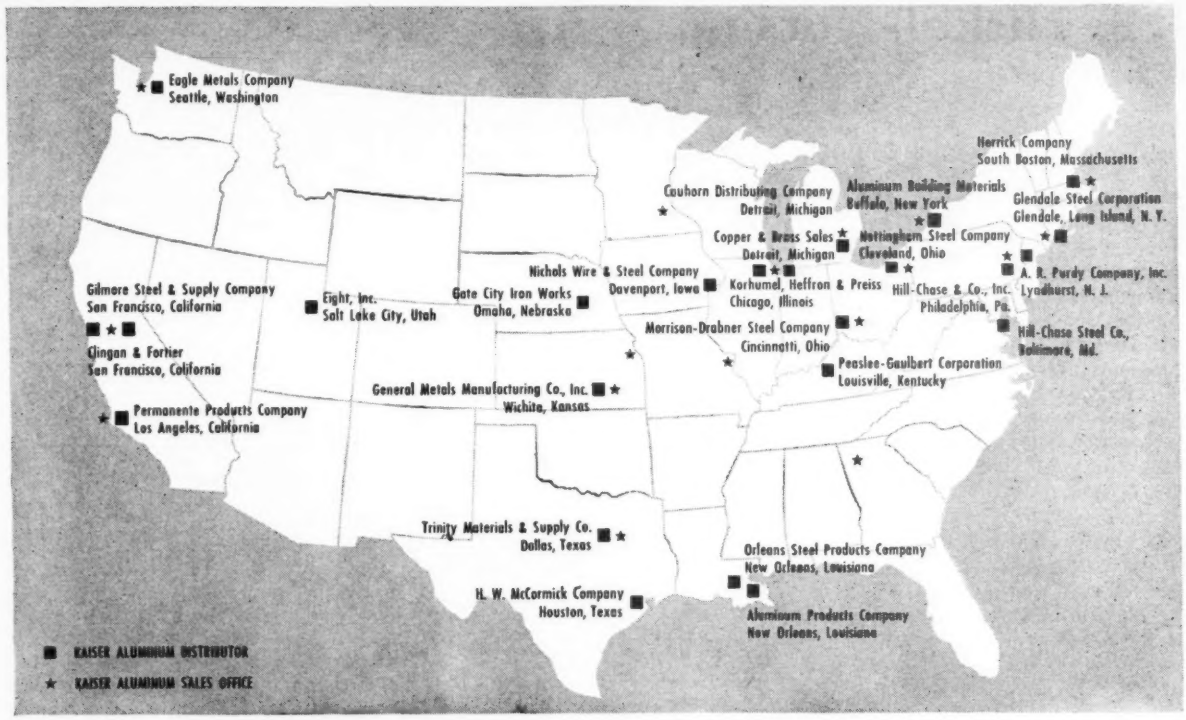
The document, approximately 300 pages, with extremely valuable maps and illustrations, is now almost as rare as a Gutenberg Bible. Only 2,500 copies were printed, and they were gobbled up by those interested in Western development almost as soon as the book came off the press. It is an interesting sidelight that Malone virtually assembled and wrote the volume in the very room where he now has his own office in the U. S. Senate Office Building. It was then Senator Oddie's office.

This report is unique, even in Congress, because it was the springboard, not only for Hoover Dam (Boulder), but it gave the momentum to the other great projects of the West, such as Grand Coulee, Bonneville, the works around Shasta, and others. It broke the trail.

It has a bearing on this present inclination to return to private industrial undertakings. Malone points out that these vast works represented an era of 12 or 15 years of public construction that gradually tapered off in the thirties with the 33 irrigation and power projects which were bred by the monumental works on the Colorado and the Columbia.

As he sees it, this period came to a close last year, and we are now confronted by an industrial era, which he thinks will utilize the public works that have been brought into existence, and inevitably will be able to build up a great chain of private industries, west of the Rockies, which will depend upon the low-cost fuel of the great hydro-electric plants to compete with the industries of the East which must pay more for their fuel.

*(Continued on page 54)*

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# U. S. Nickel-Nursing

*(Continued from page 52)*

Malone thinks the raw materials of the West can be brought to fabrication more cheaply than similar materials in the East. He looks for a burgeoning future for at least 15 years, most likely much longer, which unavoidably must be the era of private capital and private industry. He suggests we have now reached the stage in the West which requires that the capital investment per man employed must be somewhere between $12,000 and $15,000. The Senator thinks the most immediate need is that somehow, somewhere, someone or some source, must initiate those steps which will formulate the ground rules to give private capital the incentive to invest.

### Malone's War Record

He spent much of the recent war in the Pacific as the top expert for the War Department, and for the Navy, the Congress, and other government agencies, in keeping abreast of the availability of strategic materials, facilities, all the basic things of industry, used in war. This experience leads him to the unshakable conviction that the great future of the commerce of the West is in those countries which abut upon the Pacific. And he thinks, concurrently with the development of the confidence that will induce private capital to get back into the game, we should unremittingly press for the flexible tariff, the tariff that will shut out the materials and the products which originate in countries where wages are fantastically low, and living standards establish competition with which we cannot cope.

There is little doubt the Department of National Defense, meaning the Army, the Navy, the Air Forces, and the special overall group of National Defense, highly approve of industrial expansion west of the Rockies. They would be particularly eager about a program that would include underground installations.

It is no secret that the armed services hold, in the event of another war, the enemy, whoever he may be, will strike first for the area east of the Mississippi River and west of the Alleghenies, in which is located virtually the whole industrial economy that must support the armed services when we are at war. They say practically this entire integration of industry could be wrecked at the expense of 25 to 30 military aircraft.

They would like to dispose of our industrial organization somewhat as it is said the Russians have set up their war-supporting industries. They are located in four separated areas. Each area is completely independent of the other; yet each of the four supports the other so long as it is in existence. The point is, however, that each of the four might be destroyed, but since it is scarcely conceivable all four could be wiped out simultaneously there would always be at least one producing center in operation. In the meantime the others would be swiftly rehabilitated.

### Hearing Postponed

Senator Malone is chairman of the Special Senate National Resources Economic Committee, which has held some very penetrating hearings without the usual fanfare of trumpets or roll of drums. One of its most important hearings was to be held in Reno on November 19, 20, 21, particularly in regard to minerals, and the industry depending upon Western mines and minerals. But the hearings had to be abandoned indefinitely as the special session of Congress, as forecast in these letters, was called for mid-November.

Hydro-electric enterprises, steel, and the mineral industry are regarded by Malone, and his associates, as among the most important subjects for consideration, especially in connection with any program to encourage the investment of private capital. Senator Malone believes the urgency for more power immediately has been grossly over-stressed in the West. He has figures to support his understanding that the plants in operation, and those coming into operation in the near future, will take care of all needs for some years to come. But he is capable of being persuaded if his information is wrong, and he would support a justifiable program for more power, under private investment, if it is necessary.

### Difficult to Support Kaiser

He is quite candid in his conviction that it will be difficult for the powers-that-be in Washington to support Kaiser in any of the usual Kaiser-like plans for the rehabilitation of the Fontana plant. Nor is he enthusiastic about the plant falling into the hands of the cartel. He has told the people from the West that he is absolutely certain they would have the full support of the influential members of Congress if they would organize their own Western group of private capitalists and operators to take over the Fontana plant.

He has frequently told Congress that mining is a long-range business. He says it must have an incentive for the investment of venture capital. He points out that this country always needs a new supply of metals. He has made the Congress unhappily aware of the fact that our stockpile of lead is zero. We need 1,000,000 tons per year, normally, and have nothing like that volume in sight. We are using 150,000 tons of copper per month, and producing less than 75,000 tons. Despite the removal of the 4c per pound duty on copper imports, it is not expected we will balance our needs with supply until 1950. Zinc is almost as badly depleted as is lead. Malone believes there should be legislation providing temporary subsidies for the mines producing the most urgently needed metals; and that we should adopt a number of legislative measures to induce capital to invest in marginal mines as well as in others. His chief thought is to make investment of private capital in mines something that will attract the man—or woman—who likes to take a chance. Today, he thinks, the chances are mainly against the investor, by reason of the restrictions which check opportunities.

### Capital Imports an Industry

The capital has become much interested in an industry that is new here, but which apparently has sprung into extraordinary life out on the Pacific Coast during the past 10 or 12 years. The juice bars, which dispense vegetable and fruit juices, are now familiar to you; but there have been practically none here.

There are a number of health food stores in Washington, which are flourishing and are making sizable fortunes for their owners. Curiously enough, these merchants apparently are conservative, and not inclined to step beyond the usual traditional packaged goods. Juice bars have come here through the initiative of a young graduate nurse who has more than an ordinary professional knowledge of dietary techniques. She learned of juice bars in the West.

The wonder here is that this business has not spread eastward more rapidly and in greater volume. The word is that the small hole-in-the-wall type stand in Los Angeles alone represents a million dollar a year yield. How much is invested in the retail stands and in the wholesale distribution and processing, apparently is not known here, although the appropriate divisions of the Department of Commerce, and the Department of Agriculture, are making surveys. The federal government is keenly interested in discovering how many million gallons of these juices are produced annually, and where.

It is regarded as possible the expansion of the industry may have been checked by the difficulty in obtaining the juice extracting equipment.

Apparently there is only one maker of equipment who produces machines of sufficient capacity to enable the processor to conduct a wholesale business in extracting and selling juices. This is the equipment built at Norwalk, Calif., by the Dr. Walker Laboratories. Dr. Walker was one of the pioneers in the juices for health movement, and has evolved the most effective extractors for vegetables current in the industry. The equipment apparently is more or less custom-built, and consequently is not easy to acquire.

Incidentally, almost all fruit and vegetables grown in the West are preferred for their juice over eastern products.

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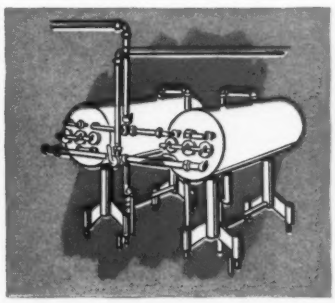

**IF YOU HAVE A PROBLEM** in Stainless tubing for dairy processing equipment, "Standard" can tell you the best solution for best results.

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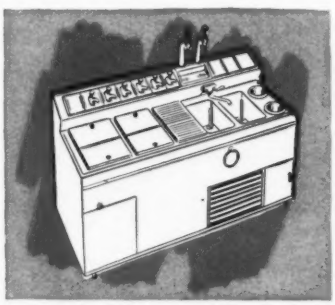

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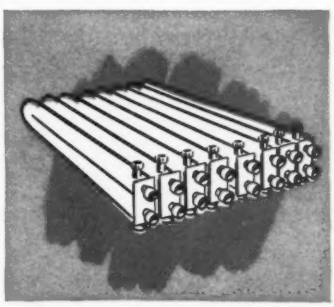
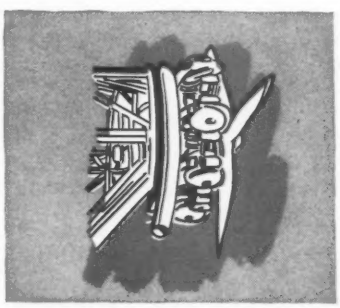


**IF YOU HAVE A PROBLEM** in Stainless tubing for use in the transmission of corrosive fluids, "Standard" is fully experienced in solving it.



**IF YOU HAVE A PROBLEM** in Stainless tubing in high temperature applications for aircraft and other uses, "Standard" will help you most.

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|---|---|---|---|---|
| | DECIMAL | B. W. GAUGE | DECIMAL | B. W. GAUGE |
| 3/8" | .035" | 20 | .025" | 23 |
| 1/2" | .035" | 20 | .025" | 23 |
| 5/8" | .049" | 18 | .028" | 22 |
| 3/4" | .049" | 18 | .028" | 22 |
| 7/8" | .065" | 16 | .028" | 22 |
| 1" | .083" | 14 | .028" | 22 |
| 1 1/8" | .083" | 14 | .028" | 22 |
| 1 1/4" | .083" | 14 | .028" | 22 |
| 1 3/8" | .083" | 14 | .028" | 22 |
| 1 1/2" | .095" | 13 | .028" | 22 |
| 1 5/8" | .095" | 13 | .035" | 22 |
| 1 3/4" | .095" | 13 | .035" | 20 |
| 1 7/8" | .095" | 13 | .035" | 20 |
| 2" | .095" | 13 | .035" | 20 |
| 2 1/4" | .095" | 13 | .035" | 20 |
| 2 1/2" | .095" | 13 | .035" | 20 |
| 2 3/4" | .095" | 13 | .035" | 20 |
| 3" | .095" | 13 | .035" | 20 |
| | | 13 | .035" | 20 |

*Intermediate sizes within the range indicated can also be manufactured. Please consult us for sizes not listed.

Available in all grades of chrome nickel steels, such as types 302, 304, 316 and 347

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THE PACIFIC PIPE COMPANY, 140 Sutter St., San Francisco 6, Cal.

# WESTERNERS AT WORK...

## California

### Foods

**Andrew Kristalyn** chosen production mgr. at Oakland bakery of Sunshine Biscuits, Inc.

**R. B. Keator,** pres. of Pacific cheese division of Borden Co., appointed exec. v.p. of Borden Cheese Co.

**George L. Prichard** appointed director of Fats and Oils Branch of Production and Marketing Administration in San Francisco succeeding **Omer W. Herrmann.**

### Utilities

**James S. Moulton,** v.p. and exec. engineer of Pacific Gas & Electric Co., elected a director of American Gas Association at 29th annual convention in Cleveland.

**William H. Park,** division mgr., Pacific Gas & Electric, named chairman of Metropolitan Oakland Area Committee, succeeding Wm. P. St. Sure, deceased.

### Transportation

**Austin Trumbull** upped to supt. of radio-electric engineering for United Air Lines, San Francisco. Formerly factory representative for United at Douglas Aircraft, Santa Monica. **R. A. Young,** aeronautical engineer from San Francisco, succeeds Trumbull at Douglas.

**Rear Admiral Giles C. Stedman,** new v.p. of all U. S. Line's operations, hdqtrs. in San Francisco.

**Edward Marksheffel,** veteran gen. supt. of Union Pacific's South-Central district, retired, after nearly 50 years of railroading. Formerly with Denver & Rio Grande R.R.; Nevada Northern terminal supt. in Los Angeles; mayor of Milford, Utah; pres. Salt Lake chapter of Old Timers' Clubs. Now resides in Downey.

**George T. Cussen** appointed ass't to pres. of Flying Tiger Line, Inc.

**• Ten senior members of General Petroleum celebrate 35th anniversary with the company, of Bryce Gillespie, ass't treasurer and ass't comptroller. The group's service totals 325 years. Photo shows (left to right) back row: A. L. Weil (31 yrs.), Bryce Gillespie (35 yrs.), S. J. Dickey (29 yrs.), L. Andrew (35 yrs.), V. L. Adams (37 yrs.), E. E. Wood (30 yrs.), J. L. Martin (34 yrs.), Front row: E. L. Adams (35 yrs.), R. A. Sperry (31 yrs.), J. P. Samuelson (28 yrs.).**

### Chemicals

**Ray Sanders** appointed gen. mgr. of Pacific Chemical Co., Los Angeles, a division of American-Marietta Co.

### Manufacturing

**D. D. Watson** elected chairman of board of directors, Harris Manufacturing Company of Stockton, **E. D. Wilkinson** succeeding as president. **K. L. Hamman** becomes executive vice-pres. and gen. mgr. **A. Paul Yancey** is vice-pres. in charge of manufacturing, and **G. Paul Sanguinetti** vice-pres. and controller.

**F. R. Royer,** new plant manager of Federal Mogul Corp., Fresno.

**Fred Kirtz,** new pres. of Magnelux, Inc.; Robt. H. DeNike resigned as officer and director.

**J. E. Ulrich,** formerly with Hobbs Battery Co., San Francisco, named v.p. and gen. sales mgr. International Battery Corp., Los Angeles.

**J. T. Penton,** California Metal Enameling Co., Los Angeles, named a v.p. for 1947-48 of Porcelain Enamel Institute at confab in Cleveland.

**C. Stribling Snodgrass,** director of Bechtel Corp., named v.p. in charge of engineering, headquarters in San Francisco.

**• The Pacific Chemical Exposition Committee, shown here with the Exposition manager, is composed of leading California chemists representing the California Section of the American Chemical Society, sponsor of the exposition held in San Francisco recently. Left to right, standing, are Donald W. Baldra, Redman Scientific Co.; Sterling L. Redman, Redman Scientific Co.; Walter B. Peterson, Braun-Knecht-Heimann Co.; Merle Randall, chemical consultant. Seated (left to right): Leo R. Gardner, California Spray Chemical Corp.; Richard Wistar, Mills College; Marcus W. Hinson, Exposition mgr.; Paul H. Williams, chairman, Exposition committee, Shell Development Co.; Theodore K. Cleveland, Philadelphia Quartz Co.; Fred D. Tuemmler, Shell Development Co.; George L. Parkhurst, Oronite Corp.; and John R. Matchett, Western Regional Research Laboratory. Other committee members are Robert Matteson, chairman of the California Section, American Chemical Society; and T. Dale Stewart, University of California; James Clayton, California Research Corp.; J. E. Hedrick, Shell Chemical Corp.; Bradford P. Geyer, Shell Development Co.; and W. J. O'Connell, Jr., W. J. O'Connell & Associates.**

**S. M. Corekin,** pres., Pacific Bedding Co., Los Angeles, and pres. of National Ass'n of Bedding Manufacturers, attended organization's annual convention at Chicago Nov. 17, with large Los Angeles delegation, including **Edgar Anspacher,** The Edan Co.; **Chas. & Wm. Winberg,** S. Karpen & Bros., California; **J. J. Willens,** Sealy Mattress Co.; **Paul and Chester Schmitz** of Bailey-Schmitz; **K. F. Carraher** of C. B. Van Vorst Co.; **Robert Murdock** and **Harold Porkorny** of Superior Sleeprite's L. A. plant; and exec. secty. **A. V. MacDonald** of Furn. Manufacturers' Ass'n of Los Angeles.

William H. Curtis

**William H. Curtis,** in charge of manufacturing operations at the Maywood plant of Chrysler Motors of California, promoted to operating mgr., taking over duties of the late **P. W. Gaebelein,** v.p. in charge of production. Before coming to California, Curtis was general superintendent of Plymouth division of Chrysler at Detroit.

### Industrial Service

**S. L. Gregory,** secty.-mgr. of Redwood Industrial Relations Committee, Eureka, Calif., resigned to accept a labor relations position with Pope & Talbot, Inc., at Portland.

**Russell Pettit,** manager San Jose Chamber of Commerce, elected sec.-treas. of Western States Council, replacing **Harold Weber,** who has gone into the broadcasting business.

### Government

**Joseph H. Wadsworth,** wartime public relations executive for Calif. Shipbuilding Co., and Joshua Hendy Iron Works, new editorial adviser to President's Air Policy Commission in Washington, D. C.

## Colorado

E. F. Underwood

**E. F. "Tex" Underwood,** who has managed Skelly Oil Co's wholesale sales at Kansas City since 1934, resigns to become executive vice-president of Graco Oil & Refining Company, with headquarters at Denver.

## Montana

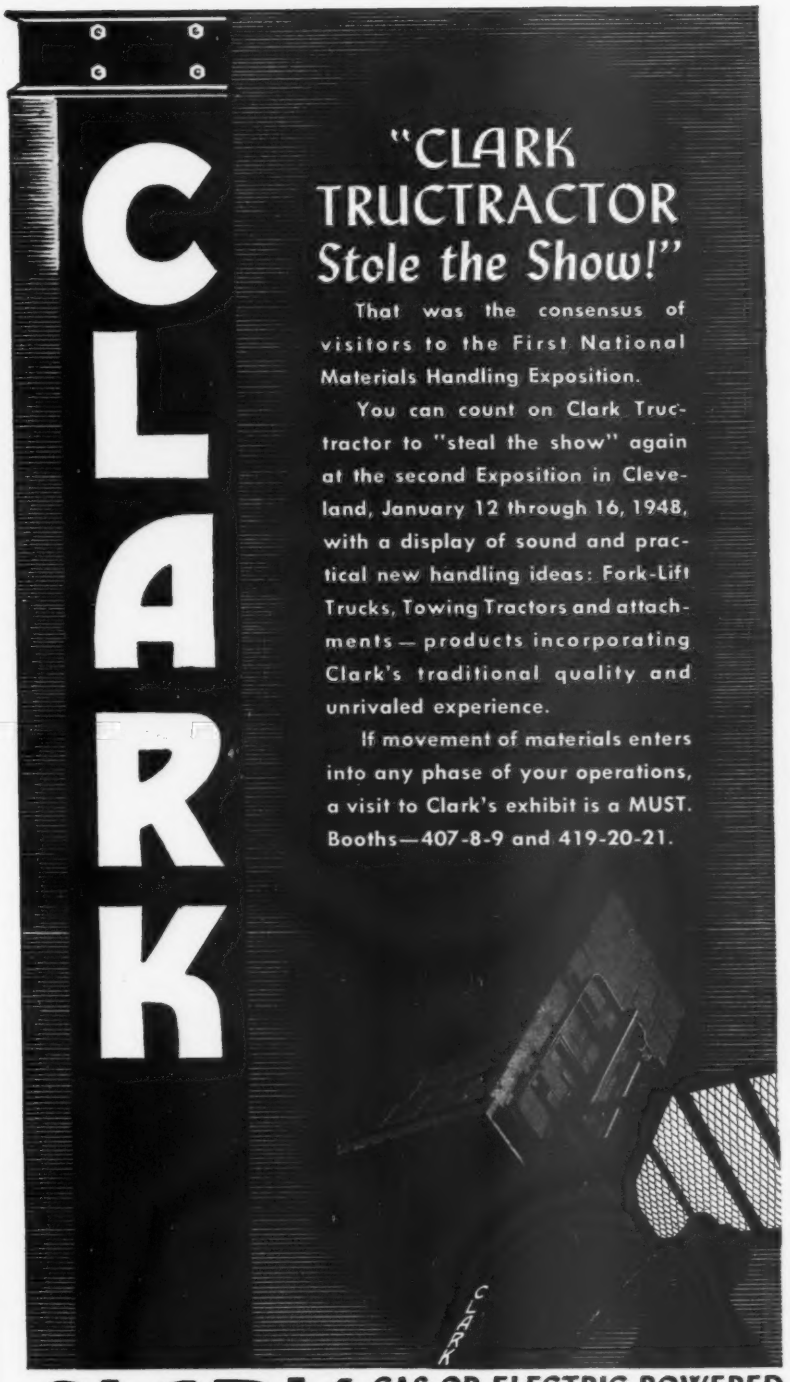
**K. N. Larson** appointed manager of the Billings Russell Miller Milling Co. of Billings, succeeding **W. A. Blume,** deceased.

**James J. Carrigan,** retired as mgr. of mines, Anaconda Copper Mining Co., and succeeded by **H. J. Rahilly,** ACM gen. supt. of mines.

## Oregon

**E. R. Ordway,** formerly of Portland, appointed gen. mgr. of Kaiser-Frazer Corp.'s new steel rolling mill at Indianapolis, Ind. Mr. Ordway, a graduate of U. of Calif., formerly ass't mgr. of Kaiser-operated shipyards in Portland; prior to that with Kaiser interests in San Francisco and Los Angeles.

**P. L. Lanz,** formerly Pacific Coast manager of Westinghouse mfg. and repair division, has



CLARK
"CLARK TRUCTRACTOR Stole the Show!"
That was the consensus of visitors to the First National Materials Handling Exposition.
You can count on Clark Tructractor to "steal the show" again at the second Exposition in Cleveland, January 12 through 16, 1948, with a display of sound and practical new handling ideas: Fork-Lift Trucks, Towing Tractors and attachments — products incorporating Clark's traditional quality and unrivaled experience.
If movement of materials enters into any phase of your operations, a visit to Clark's exhibit is a MUST.
Booths—407-8-9 and 419-20-21.
CLARK GAS OR ELECTRIC POWERED FORK TRUCKS
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CLARK EQUIPMENT COMPANY, TRUCTRACTOR DIVISION, BATTLE CREEK, MICHIGAN
REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

# WESTERNERS AT WORK...

joined newly organized Schwager-Wood Corp., of Portland to be in charge of production. **A. C. Schwager,** formerly v.p. in charge of engineering of Pacific Electric Corp. of San Francisco, will be in charge of engineering and design, and **Max Wood,** formerly ass't administrator of Bonneville Power Administration, heads sales and management of company.

**R. G. Barnett,** v.p. and gen. mgr. of Portland Gas & Coke, re-elected to a two-year term as director, and chairman of publicity and advertising of American Gas Assn.

**George H. Buckler** elected chairman of Portland commission of public docks, and **Capt. Homer T. Shaver** appointed commission member on port directors' co-ordinating committee.

**Arthur Nikand** appointed factory manager of Portland plant of Hyster Co.

## Washington

**E. W. Daniels,** pres. Harbor Plywood Corp., Hoquiam, Wash., elected to tenth consecutive term as chairman of Douglas fir plywood industry management committee.

**John Fies** will represent technical department of National Lumber Manufacturers Association on the Pacific Coast. Mr. Fies will spend his time in the seven Western states in the interest of improved building codes and technical activities for lumber.

**Irving C. Smith,** v.p. and director of Monsanto, Canada, Ltd., at Montreal, named ass't gen. mgr. of Western Division of Monsanto, headquarters in Seattle.

**Phil Coyle** appointed to succeed **L. C. Tompkins** as industrial relations manager at Permanente Metals' Trentwood plant. Job includes safety, employment office and plant protection.

**Leonard W. Kirk,** former Spokane mgr. for P.T.&T., new district mgr. of company, in Seattle. **Walter A. Nelson** replaces Mr. Kirk in Spokane position.

**Harold A. Deppe** of Smithfield, Utah, announced as gen. mgr. to Columbia Basin Brick & Tile Co., in Pasco.

**A. B. Terry,** Port of Seattle commissioner, elected to vice-chairmanship of Seattle Traffic Assn. executive committee to fill unexpired term of **Horace P. Chapman,** retired.

**Robert S. Macfarlan** of Seattle advanced to exec. v.p. of Northern Pacific R.R., but will retain position as NPRR counsel and a member of the board.

**Rear Adm. F. A. Zeusler,** USCG (ret.) appointed exec. ass't to pres. Alaska Steamship Co., in charge of long-range program of postwar planning.

**Fred W. Brownell,** resigned as treasurer of Puget Sound Power & Light, succeeded by **J. H. Clawson.**

**Robert England,** former Northwest Airlines district traffic mgr. in Seattle, named traffic and sales mgr. for West Coast Airlines.

**Albert W. Olson,** Industrial Plating Works, Inc., Seattle, elected to board of directors of National Ass'n of Metal Finishers, Inc., Detroit.

## Associations Elect

New chairman of Los Angeles Chapter, American Welding Society, is **"Al" Fenlason,** welding superintendent of Consolidated Steel.

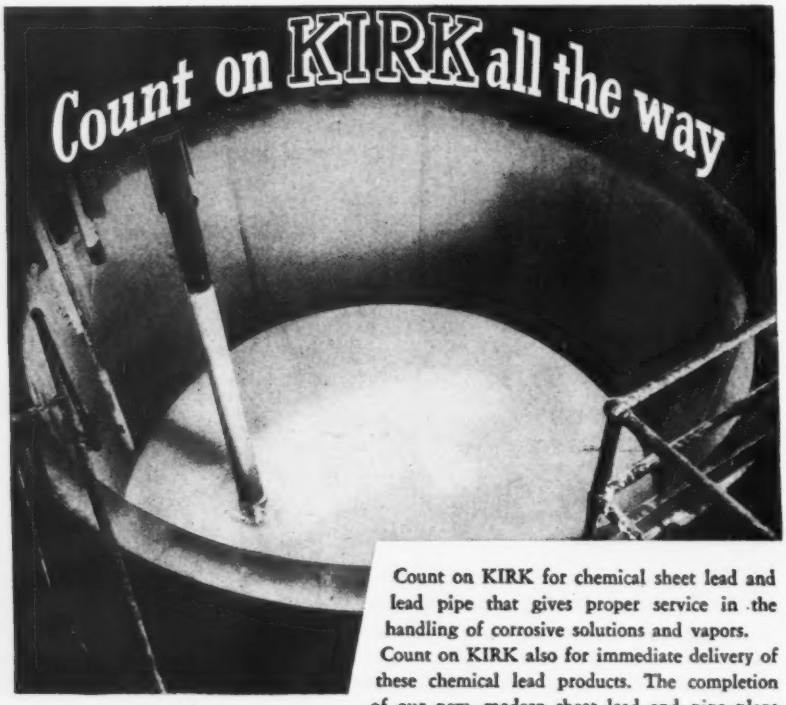
"Al" Fenlason

**A. N. Skinner,** pres. of Fredick Couch Co. of Los Angeles, elected to presidency of National Assn. of Furniture Manufacturers at annual convention in Chicago.

A. N. Skinner

**Arthur Miller,** newly appointed impartial chairman of Pacific Coast Labor Relations Committee, replacing **Dr. Clark Kerr,** resigned.

Western Engine Rebuilders Ass'n boosts to presidency **Karl T. Goeppert,** vice-president of J. E. French Co., Oakland. **A. S. Kenmonth** of Piston Supply Co., Los Angeles, becomes v.p. and **Les V. Dana** of Dana Motors, Sacramento, sec.-treas.


Count on KIRK for chemical sheet lead and lead pipe that gives proper service in the handling of corrosive solutions and vapors.

Count on KIRK also for immediate delivery of these chemical lead products. The completion of our new, modern sheet lead and pipe plant makes this possible.

Only chemical lead of proven quality—long known for its high acid-resistance—goes into KIRKSON Sheet and Pipe.

KIRKSON Chemical Sheet Lead is available in any gauge from 1/64" upward, and in some weights is obtainable in sheets as large as 9' x 40'.

KIRKSON Chemical Lead Pipe is available in sizes from ⅜" I.D. to 6½" I.D.

Count on KIRK for Chemical, Antimonial and Tellurium Sheet Lead and Pipe.

Call on KIRK for lead lined products which combine the strength of cast iron with the acid resisting qualities of lead.

**MORRIS P. KIRK & SON, Inc.**

*Subsidiary of National Lead Co.*

2717 SOUTH INDIANA ST. LOS ANGELES 23, CALIF.

# GAMBLES' FLEET OF TRAILERS KEEPS MERCHANDISE MOVING

## Fruehaufs Serve 75 Stores in Two States

WITHIN Montana and Wyoming — a vast trading area of 244,911 square miles — the Gambles' fleet of Fruehauf Trailers handles their over-the-highway distribution job with utmost efficiency and economy. By this flexible method, merchandise is thus moved from manufacturer to consumer at a saving in delivery cost.

***Efficient, Controlled Distribution Demands the Economy of Fruehaufs***

As experts of controlled distribution, Gambles selected Billings, Mont., for its central distributing point. From that city, the Trailers make scheduled deliveries loaded with selected lines of merchandise to 75 stores located in the two states. As some round-trips are 1,000 miles, each Fruehauf averages 50,000 miles annually.

Gambles reports that through use of the Trailer system of delivery it *(1)* keeps merchandise moving faster *(2)* reduces cost of transportation *(3)* lowers store inventories *(4)* shifts merchandise to meet localized demands *(5)* replenishes stocks quicker.

Your business may involve a distribution problem. A Fruehauf transportation engineer will be glad to explain the Trailer method in detail and cite the successful experience of others. It will cost you nothing to learn the facts. Call any Fruehauf Factory Branch.

*World's Largest Builders of Truck-Trailers*

**FRUEHAUF TRAILER COMPANY**

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SALES AND SERVICE BRANCHES — LOS ANGELES • SAN FRANCISCO • PORTLAND
SEATTLE • DENVER • EL PASO • PHOENIX • SAN DIEGO • FRESNO
SPOKANE • BILLINGS • SALT LAKE CITY

**FRUEHAUF TRAILERS** PLAIN HORSE SENSE — YOU CAN PULL FAR MORE THAN YOU CAN CARRY! *"Engineered Transportation"*

# Big Steel Pushing New Mills to Meet West's Needs

***Columbia's $30,000,000 cold reduction sheet mill is the first large scale production in Los Angeles; Bethlehem doubles capacity with new furnace***

**REGIONAL REVIEW**
**Tehachapi to Tijuana**

LOS ANGELES — No matter who wins the argument as to whether the United States needs more steel-producing facilities, the West knows where it stands regarding its own requirements.

And irrespective of their differences with the federal government and the CIO, the big steel men know it, too. Nothing could be more eloquent than the recent moves by Columbia Steel and Bethlehem Pacific to build new plants on the West Coast.

Columbia's $30,000,000 cold reduction sheet mill will bring Los Angeles its first large-scale production of the precious thin metal, on which more than 600 local manufacturers depend directly for a major raw material.

Bethlehem's new 50-ton electric furnace, largest and most modern of its type on the West Coast, soon will go into operation to double the company's local capacity. Heating facilities for larger steel ingots have been installed, as well as a new 32-in. blooming mill.

By mid-1948, a new $2,000,000 wire mill is to be completed, turning out bright wire and annealed wire for fabricators of such articles as racks, baskets, wire forms, and other specialties, in addition to furnishing a large tonnage for use in building and box-tying. In all, Bethlehem Pacific is spending $14,000,000 locally, in addition to $1,000,000 in the Bay area and $500,000 at Seattle.

Proving that misfortunes seldom come singly, the local steel industry now is feeling shortages not experienced since the days of the rousing war-time scrap iron panics. With pig iron in short supply, foundries have been charging their furnaces with larger percentages of scrap, which naturally has become less plentiful.


**BRING ON YOUR PROBLEMS**

The Adhesive, Resin and Chemical division of American-Marietta Company is in the "problems and solutions" business. We mean that our staff of chemists works from morning to night on the development of adhesives, resins and molding compounds for a wide field of industries.

In the plywood field, for example, our product experimental work on adhesives extends back to 1935—five years before our first resin-base adhesive for plywood was marketed.

For other industries similar intensive research work is continuous. It could not be otherwise in a firm whose field of usefulness is measured by its ability to manufacture better products.

Bring on your problems. For every A-M service man in the field there is an A-M chemist in the plant. Collectively, they form a service organization that can be of help to you. Your inquiries are invited.

A-M

**AMERICAN-MARIETTA CO.**
ADHESIVE, RESIN AND CHEMICAL DIVISION
3400 THIRTEENTH AVENUE, S. W., SEATTLE 4, WASHINGTON

The industry can thus live off its fat only so long before facing a serious scrap shortage, and that time is fast approaching. Many small foundries fear eventual shut-down. Kaiser's Fontana mill has only a three weeks' stockpile, instead of the three to six-month supply required for comfort. Eastern buyers offering $4 to $5 per ton above local market prices, have helped deplete the supply here.

### Aluminum Plant on the Block

Southern California's only producer of ingot aluminum, the former Alcoa reduction plant at Torrance, will go on the block soon. Marked for "cannibalization," equipment of the giant plant is being sold piecemeal. First offering of 640 big reduction pots, the carbon-lined steel vessels used for cooking aluminum ore, brought no bids higher than $100,000 and caused War Assets Administration to postpone awards pending re-advertising.

Alcoa's fabulous battery of power switching and control equipment, which handled the colossal electrical currents surging over solid silver busbars into the reduction potlines, is likewise up for sale. Next will come the gigantic plant itself, considered one of the best-built in the West, with its 55 buildings totalling 1,000,000 square feet in area, and its network of monorail systems and heavy cranes, which will be left for use by the purchaser of the plant.

WAA officials have been on the lookout for an industry large enough to utilize the big property fully. They concede, however, that it is a "natural" for "multiple tenancy" cooperative use, as worked out so successfully at Consolidated-Vultee's No. 2 plant at San Diego, now shared by eight or more small concerns.

Cannibalizing of the Alcoa giant writes a period to the story of southern California's venture into basic light metal production, barring another—and unlikely—war squeeze like the one that created the fabulous enterprise.

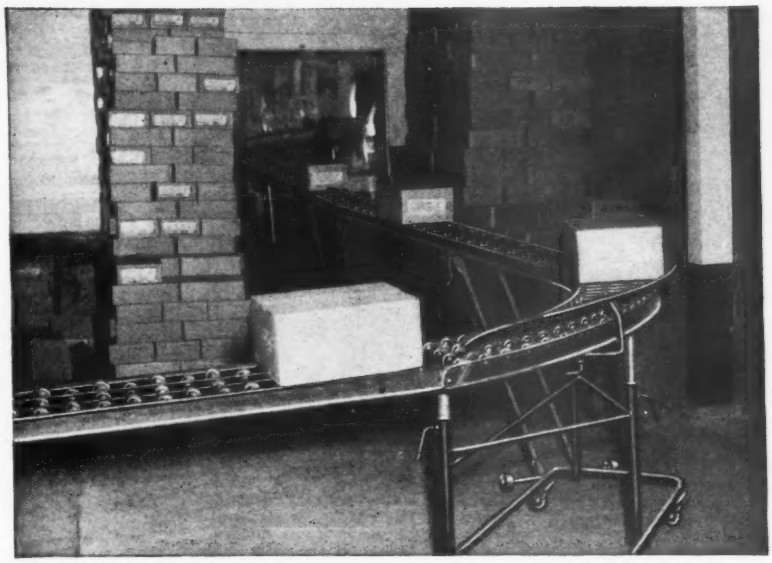
### War Surplus Sells Smoothly

Crepe-hangers who two years ago were predicting horrendous effects of the "dumping" of war surplus on local markets have found scant consolation in results to date. Nearly a third of a billion dollars' worth of surplus goods have been absorbed in the southern California-Arizona area since mid-1945 with very little, if any, economic dislocation.

Aside from the glut of such items as pyramidal tents, rubber life rafts, O.D. paint, gas masks, and other items not actively in demand by the average housewife, this vast amount of goods has passed to the consuming public without a ripple.

Distress symptoms might have been expected to show in the aircraft field, for the southern California-Arizona area was

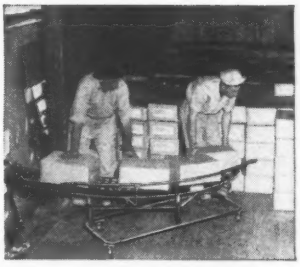
*(Continued on page 62)*

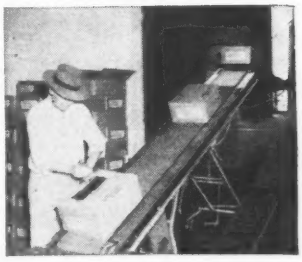
# *Cut Labor Costs*

WITH

## RAPIDS-STANDARD CONVEYORS



Fast, efficient handling of the cases and empty jars from the time they enter the plant, throughout filling, storage and loading is accomplished at Cinderella Foods, Inc., Dawson, Ga., through the use of a Rapids-Standard Conveyor System.



In the words of Mr. C. M. Cruikshank, Executive Vice-President: "The savings in labor for us is tremendous. I estimate that your gravity track and boosters are saving us from $200 to $250 each week. We just couldn't do without them and if no more were available, we wouldn't sell them for five times what they cost."

The Rapid-Wheel Gravity Conveyor and The Stevedore, Jr. (Power Belt) Booster make a handling team in this plant that eliminates all strenuous lifting and hand moving. Cartons placed on the conveyor at the loading dock move on to their destination without rehandling. Stevedore, Jr. does the heavy lifting work and Rapid-Wheel Conveyor carries the cases through the plant by cost-free gravity. Cases move in a minimum of space all the way and traffic problems are non-existent. Both Stevedore, Jr. and Rapid-Wheel Conveyors are easily portable and can be quickly set up in any part of the plant or warehouse.

*Check into the advantages of this cost reducing equipment today. What it has done for hundreds of others it can also do for you. It COSTS NOTHING TO GET FULL PARTICULARS. WRITE TODAY FOR FREE LITERATURE.*

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*Manufacturers of*

STEEL FORGED CASTERS · TRUCKS · CONVEYORS · POWER BOOSTERS

## The Rapids-Standard Co., Inc.

Sales Division—374 Peoples National Bank Bldg., Grand Rapids 2, Mich.

# Big Steel Pushing New Mills

*(Continued from page 61)*

the largest concentration point for military aircraft in the country. Leading the nation in sales, it has been the home of more fledgling airlines and air freight projects than any other region.

Actual competition of surplus planes with the commercial aircraft industry has been far less than imagined, for three good reasons: (1) Small, economical planes of the "grasshopper" and light trainer type suitable for private pleasure flying, were few and were sold out within a few months; (2) the bulk of surplus craft were fast military planes, too "hot" and too gas-hungry for the average individual to afford; and (3) the bombers and transports which many ambitious pilots sought to convert to air freight and charter plane work were bought by impecunious enthusiasts who could not have afforded, anyway, to buy modern civilian planes at current prices.

Now, with only $228,000,000 worth of flyable planes left on hand, War Assets Administration has resolved to get rid of all of them by year's end and is marking them down correspondingly. With the big job of stripping and melting down some 7,500 planes at Kingman and Ontario air bases into scrap now well on its way, the surplus airplane will soon have passed completely out of the picture.

### Plane Makers Cool to Decentralization

The old bogey of "military security" has been resurrected again, sending shuddery chills down local industrialists' spines. The nation's Scientific Research Board's recommendation that key industries be scattered more widely throughout the nation, because of the possibilities of atomic warfare, suggests possible repercussions in southern California, which has become even more than before the war the No. 1 center of the aircraft industry.

Tendency since V-J Day has been to close the war-built, government-owned plants in other areas and concentrate activities in the home plants, located here. Although the military, if it pays the piper, may call the tune, little enthusiasm can be expected from the industry for proposals which contemplate distributing operations over a number of widely separated plants, with considerable duplication of expenses.

Latest statements show Douglas and Lockheed losing money, with Northrup moderately in the black. All three report bigger sales than last year, but mounting costs on commercial work have swallowed up the increased revenues.

Meanwhile military backlogs are dwindling and without the yeoman support of the armed services, the huge overhead costs of the vast industry simply cannot be met. The Congressional axe, slashing appropriations from the 3,000-plane figure requested by the Army and Navy to about 1,400, dealt the industry a body blow.

Current airframe production is estimated at about 20,000,000 pounds annually, as against the 30,000,000 considered a "subsistence minimum." Next year it is expected that fewer than 1,500 planes will be built, which means drastic shrinkage, if not near-collapse, for the industry.

### Employee Cooperation

A new idea in employee cooperation was outlined to conferees at the Merchants and Manufacturers Association's fifth annual management conference at Palm Springs. Thomas R. Reid, 33-year-old, forceful, red-haired vice-president and director of human relations for McCormick and Company of Baltimore (which now owns A. Schilling & Co. of San Francisco), told how his company "gets the thinking, ambitious employees into management through the mechanism of three boards of directors in addition to the senior corporate board. . . . By this means a total of 60 people are engaged in actual management."


**NUTT-SHEL** ALL METAL SELF-LOCKING ANCHOR NUT

"NUTT-SHEL" Self-locking Anchor Nuts, Bolt and Nut Retainers are approved for use on Army and Navy Airplanes.

TWO-LUG SELF-LOCKING ANCHOR NUT

EXTRA HEIGHT TWO-LUG DOME NUT

U.S. Pat. No. 2331322 and 136473
Great Britain Pat. No. 566463
Canadian Pat. No. 422698
Other Patents Pending

AVAILABLE IN THREE TYPES:

May also be obtained with projections for resistance welding or dimple countersinks for flush riveting.

Series 2700 (AN362) "Flexloc" stainless steel nut, stainless steel shell. Series 2600 (AN366) "Flexloc" Nut and steel shell. Series 2600D (AN366D) Alum. Alloy Shell and "Flexloc" Nut.

• Applicable for: RADIOS—MOTORS—FURNITURE—AUTO BODIES — CHASSIS — MACHINERY — AIRPLANES — ENGINES — BOATS or wherever Bolt and Nuts are employed for enduring permanence.

This unit is especially designed for integral tank sealing and to prevent seepage. . . . This Dome Nut employs a standard ALL METAL "Flexloc" Nut secured within the Steel Shell. Obtainable also for resistance welding or flush riveting.

* Write for descriptive Engineering Data Sheets. No Obligation.

NUTT-SHEL COMPANY

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The auxiliary boards—the Junior Board, the Factory Board, and the Sales Board—meet weekly to make decisions on various problems, the decisions being passed along as recommendations to the Senior Board. Membership is on a merit basis. Every six months, members who haven't made the grade are dropped; those who have displayed ability are promoted to the appointment committee and new employees are elected to the board. For every fourth meeting, they are paid the regular director's fee.

"Frankly, we're interested only in the thinking, creative, ambitious employees who want to get ahead," McCormick explained. "Not more than one in 10 is this type. In most companies, they'd have to wait to step into dead men's shoes. Through multiple management we can bring these bright boys into management at an early stage in the game."

The plan supplements rather than supplants the regular line organization. Since its adoption there has never been a labor stoppage or even an organized demand. In 1933, the Factory Board recommended rest periods, then a novelty, and the Senior Board approved. Although working time declined five per cent, overall production increased nine per cent.

"We know what our employees want," McCormick added. "You could almost say that we beat them to the grievance."

During the first five years of multiple management, productivity increased 35 per cent.

### Packaging Exhibition

This area's first "scientific packaging and material handling forum and exhibition" drew a sizable number of executives from various local industries to study late methods for transporting goods in plant and shipping dock. Particular interest centered on such currently live topics as (1) how to glamorize a product through attractive containers that likewise afford sufficient protection to contents; (2) shortcuts in materials handling; and (3) cutting of losses due to damage in shipping.

Lively discussion at several well-attended forum sessions revealed that many neophytes in world trade, in their eagerness to capture foreign markets, are packing their products too poorly to withstand the rigors of export handling. It reflected, too, one of the main factors behind the exposition—a sharp upswing in loss and damage claims, resulting from large-scale return of consumer goods to the market. The exposition was sponsored by the Motor Truck Association of Southern California in cooperation with the local chamber, the Traffic Managers Conference, Pacific Coast Transportation Advisory Board, and Material Handling Association.

### Retail Sales Creeping Up

Just where the inflation shoe pinches first is plain to be seen in the behavior of


GENERAL
INDUSTRIAL PNEUMATICS
. . . SPEED PRODUCTION
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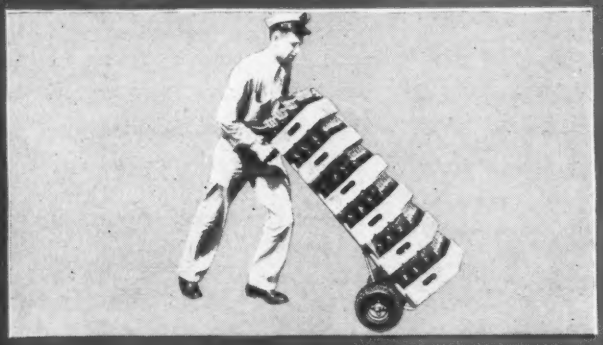
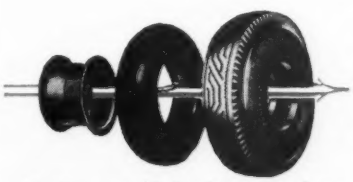


WHEEL-EZY truck—Equipped with General Industrial Pneumatic Tires—Manufactured by The Rapids-Standard Co., Inc., Grand Rapids, Michigan.

MOVE MORE LOADS, FASTER, EASIER, SAFER

In buying or designing new material handling or other mobile equipment—Study these advantages of General Industrial Pneumatic Tires:
*General Industrial Pneumatics . . .*
Move loads faster and more economically . . . Protect floors and floor coverings . . . Roll easier over soft ground or rough surfaces . . . Protect fragile, easily damaged loads . . . Guard against spillage due to shocks or bumps . . . Roll silently—Eliminate noise . . . Eliminate shock and jar to operator . . . Designed for both high and low speed.



*Factory assembled units: Heavy-duty Tire, Separate Tube, Heavy Duty Demountable Wheel and Rim; 8" to 22" o. d. for loads of 180-1900 lbs. per tire.*

Wide base rim design, originated by General, has greater load capacity, guards against side-sway, permits low-bed mobile equipment design with low center of gravity that provides stability and straight-tracking in trailer trains. General has the ONLY demountable wheel. Separate heavy gauge inner tubes guarantee maximum air retention.

The GENERAL TIRE

THE GENERAL TIRE & RUBBER COMPANY
Dept. 7, Akron, Ohio

INDUSTRIAL PNEUMATIC TIRE • TUBE • WHEEL UNITS

# Big Steel Pushing New Mills

*(Continued from page 63)*

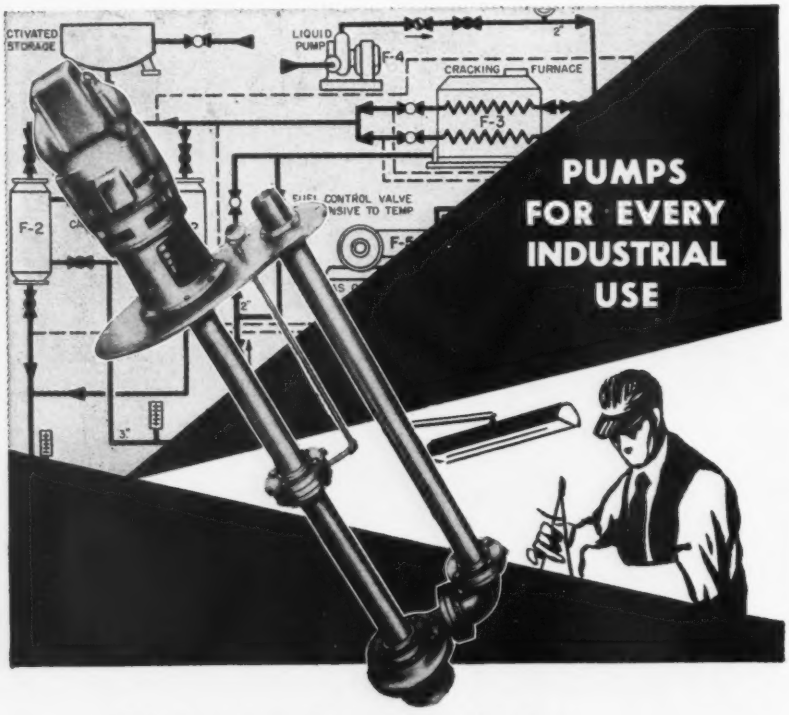
retail trade in southern California. On balance, of course, sales still are creeping upward, but they have levelled off somewhere above the $4,000,000,000 rate, and each month the gain over last year is a little less.

The Security-First National Bank, however, points out a wide difference in the effect on various lines of business. During the first half of this year, it observes, sales totals were up 18 per cent, but while many fields still are gaining ground, others have dropped far behind.

First items to be bypassed by budget-conscious families are those that can be omitted with least discomfort. Furriers, gift and novelty shops, jewelry stores, and men's and boys' furnishing stores show declines ranging up to 25 per cent. Showing lesser degrees of recession are women's apparel shops, liquor stores, eating and drinking places, book stores, opticians, and dry goods stores. Florists and luggage dealers are just holding their own. So are druggists and delicatessen operators.

On the uptrend, however, are meat markets, filling stations, egg dealers, bakeries, and other enterprises dealing in necessities of life. Running into still higher brackets come the lines of business tributary to housing and homemaking — hardware, furniture, floor coverings, draperies, paint, glass, wallpaper, lumber yards, and household appliances. And topping the entire list ranks the problem of the long-suffering family car, with motor vehicle dealers showing a 75 per cent gain over last year.

This remarkable shift away from luxuries constitutes important handwriting on the wall for manufacturers. Woe to those who are turning out gimcracks and other trivia, when said goods run into head-on competition with bacon, eggs, or a new kitchen range. The hard-pressed housewife, finding that steaks already have absorbed most of the current budget, will be a poor prospect for a barbecue grill.




Behind the scenes in every industrial plant, pumps of all kinds play a very major role in the overall operation. It is extremely important therefore to make sure that the pumps which are used are engineered to give years of unfailing service. Every pump bearing the trademark of Pacific Pumping Company is unconditionally guaranteed. Over forty years of experience in pump engineering is your assurance that when you choose a Pacific Pumping Company pump you will receive a pump that is correctly engineered for the job that it is designed to do. We invite you to talk your pumping requirements over with our pumping engineers.

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*Manufacturers & Distributors of Pumps for Every Requirement*

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## Lopsided Foreign Trade Worries Businessmen

Statesmen and economists aren't the only ones worrying a bit because foreign nations are running out of American folding money to spend in U. S. markets. This area's direct stake in world trade was forcibly brought to the notice of local business men when L. A. County's overseas dealings for the first half of this year totaled up a neat $207,000,000, an all-time high and more than the total for the entire year of 1929, former peak year. The painful point, however, is the fact that exports accounted for $156,000,000, imports for only $51,000,000—a lopsided situation that means, of course, that our foreign sales will drop sharply just as soon as our foreign customers have exhausted their store of U. S. dollars—unless we increase our purchases from them.

## Free Trade Zone Proposed For Los Angeles

Prospects for a free trade zone at Los Angeles Harbor have been studied by an engineering firm whose report, just submitted, concludes that such a zone could probably get into the black after perhaps three years of deficit, and that it could eventually become self-supporting. Theory of the zone, of course, is that vessels could land cargoes here for storage or reshipment, duty to be collected only if the goods were actually imported into the U. S. A. Reshipment of goods would be a sizable activity by local world traders, while benefit to the general business community is supposed to stem from the fact that vessels attracted by the free zone presumably would land and load other items at the same time, rather than travel to another port, thus increasing commerce in this area.

Originally there was local opposition to proposed state legislation for creation of such a free trade zone at San Francisco. It remains to be seen whether or not local rivalry will be dropped and both projects carried forward to actuality.

# Eastern Industries Keep Up Their Lively Pace Westward

***Census estimates of population gains indicate markets they cannot afford to dismiss as a wartime phenomenon***

SAN FRANCISCO—Entrance of eastern manufacturing concerns into the northern California area is showing no signs of slackening. In fact, all signs point to the fact that many eastern companies were too busy at home in the immediate postwar period to do anything about establishing branch plants in this area, but are now either taking up their plans at the point where they were laid aside, or else have realized for the first time that the tremendous population growth of the state was something they could not afford to dismiss as a war phenomenon.

The U. S. Census Bureau estimates of population gains by the various states between April 1, 1940, and July 1, 1947, reveal some significant trends. California gained 2,894,000 in civilian population, which is more than the combined growth of the next three states, namely Michigan, 985,000; Ohio, 859,000; and Texas, 655,000. This was also more than the combined growth of the next seven eastern and southern states on the list — New York, Florida, Massachusetts, Maryland, Pennsylvania, Virginia and Connecticut.

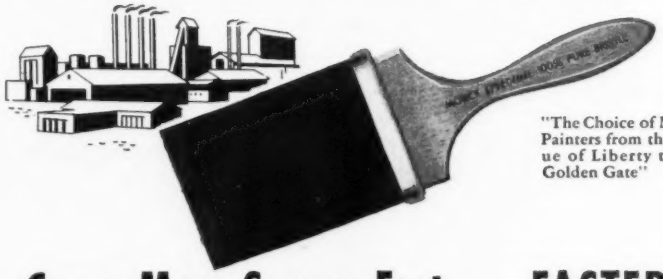
**REGIONAL REVIEW**
**Sierras to the Sea**

Two other Pacific Coast states did right well by themselves in this population increase in seven years. Washington stood sixth on the list, with a gain of 463,000, and Oregon ninth with 428,000. Arizona was also in the upper bracket for the country, with 151,000 more civilians, and Utah barely missed the top half with a gain of 85,000.

For the whole state of California, there were approximately 4,650 new factories and major plant expansions announced, started or completed in the two and one-half year period ended June 30, 1947, according to the figures compiled by Her-

*(Continued on page 66)*


MORCK SPEED-LINE BRUSHES



"The Choice of Master Painters from the Statue of Liberty to the Golden Gate"

Cover More Square Feet . . . FASTER

Heavy industrial maintenance jobs demand a lot from brushes. Morck Speed-Line *100% Pure Hog Bristle* Brushes are designed to meet this requirement. They are built to the specifications of master painters . . . to meet every type of job. . . production line or maintenance.

Morck's master craftsmen build feel and balance into these modern painters' tools...for easy, fast, efficient work with better lay-on and brush-out. Long lasting, usable right down to the heel, for still more economy. Give your painters Morck Speed-Line *100% Pure Hog Bristle* Brushes and your painting problems stop.

SEND FOR THE MORCK CATALOG

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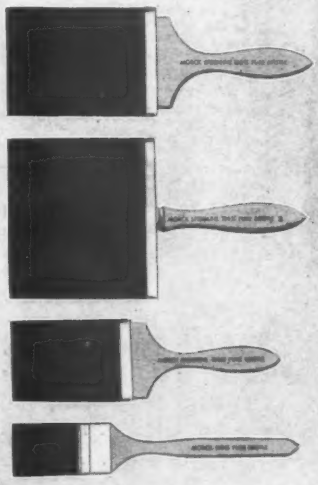
MORCK'S PAINTER'S KIT
100% PURE HOG BRISTLE

Morck's big-4 are a must for painters...Stucco, Wall, Enamel and Sash. Brushes you'll be proud to own.



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No. 2 — Ideal for general oil type lubrication, ring oiled bearings, wick feeds, sight feeds and bottle oilers.

No. 8 — Because of high film strength and long life it reflects outstanding performance in most types of enclosed gears (speed reducers).

No. 107 — One of the most popular grease type products for general application by pressure gun or cups.

No. 70 — For a wide range of grease applications, especially at temperatures above 200 degrees F.

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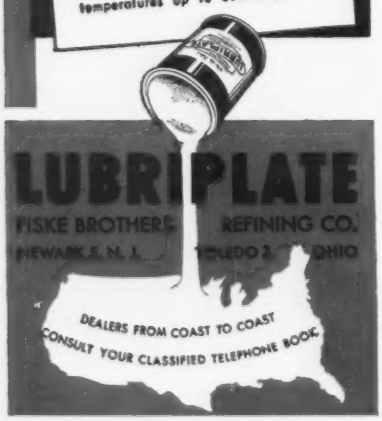
BALL BEARING — This is the LUBRIPLATE Lubricant that has achieved wide acclaim for use in the general run of ball and roller bearings operating at speeds to 5000 RPM and temperatures up to 300 degrees F.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NEWARK 5, N. J. TOLEDO 3, OHIO
DEALERS FROM COAST TO COAST
CONSULT YOUR CLASSIFIED TELEPHONE BOOK

*(Continued from page 65)*

bert Ormsby, research director of the California State Chamber of Commerce. Total investment involved was about $700,000,000.

Additional Bay Area land has become available for immediate industrial development as a result of the return of the second of two wartime shipbuilding sites in Richmond to the Santa Fe Land Improvement Company. This is the former Kaiser Shipyard No. 2. Kaiser Yard 4 was turned back to the Santa Fe previously, and the railroad now has approximately 544 acres in Richmond containing warehouses, shop buildings, railway tracks, piers and open storage areas available for industrial use.

Coast Company, first concern to lease any of this Santa Fe property, have leased additional property in the Yard 4 area. They are wholesalers to distributors of valves, pipes and fittings in the higher pressures for refinery and chemical plant use. G. W. Schweinhard is president of the company and T. J. Lingle secretary-treasurer. Another tenant of the area will be M. J. Ryan & Associates of San Francisco, producers of fabricated steel products and barges.

### Operations Transferred to Niles

American Forge Company has transferred its operations from Berkeley to Niles, where a new building for forging operations is being constructed adjacent to the Pacific States Steel Company plant, American's source of supply. The equipment has been moved from the Berkeley plant to Niles, and the copper and stainless steel fabricating operations of Oscar Krenz, Incorporated, will be concentrated in the quarters hitherto used by American Forge. The Krenz company has had two plants, one in San Francisco and the other in Oakland. The concern will now have treble its former capacity.

Two other manufacturers are moving from San Francisco to the East Bay area. They are Pacific Can Company, who are building a new plant in San Leandro, near the Dodge assembly plant already under construction, and Lady's Choice, manufacturers of condiments, pickles and vinegar. The latter have bought five acres of land and a large building from L. A. Young Spring & Wire Company in the same neighborhood as Pacific Can.

An industrial exposition for the San Francisco Bay Area is being planned for July 2 to 9, 1948, in the San Francisco Civic Auditorium, to display examples and products of industry in the area. The plan was originated by the San Francisco Junior Chamber of Commerce, and has been endorsed by the San Francisco Bay Area Council. Frank H. Schonbein is chairman of the exposition board, and the firm of Kriedt and Meyers will manage the affair

On account of the far greater demand for aluminum at the present time, the re-

*(Continued on page 68)*

This is the mark of the largest California-owned manufacturers of Oxygen, Acetylene and the other compressed gases. Let it guide you to service you can depend on every day, delivered from 100 points in California. We're also headquarters for the most approved welding equipment and supplies—everything you need but the welder.

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Pacific Carbide is generating acetylene in 12 countries

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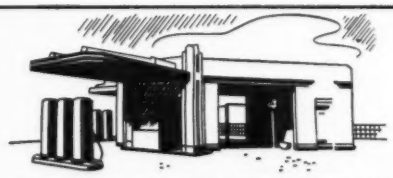
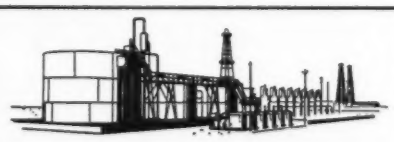
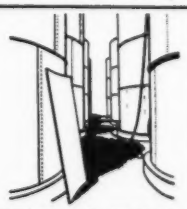


STANDARD & DELUXE SERVICE STATIONS
*Also Service Station Equipment*

STEEL BRIDGES AND BUILDINGS



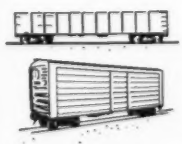
PETROLEUM TANKS & PRESSURE VESSELS



STORAGE TANKS
*for* WINE INDUSTRY

FOOD PROCESSING EQUIPMENT

HEAD FRAMES FOR MINES



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Fabricated Structural Steel · Steel Buildings · Bridges · Barges · Service Stations · Dredges · Plate Work · Steel Storage Tanks · Steel & Sheet Metal Products · Steel Erection · Miscellaneous Iron · Truck Tanks · Jobbers of steel shapes, bars, plates and sheet metal.

CALL ON *INDEPENDENT* FOR IMMEDIATE WORK OR CONSULTATION ON FUTURE PLANS

**INDEPENDENT IRON WORKS INC.**

EIGHTH AND PINE STREETS — OAKLAND 7, CALIFORNIA

PHONE TEMPLEBAR 2-0160

# Industries Keep Up Their Westward Pace

*(Continued from page 66)*

search and development program on magnesium at the Permanente Metals Co. plant near San Jose has been suspended, the plant put on a stand-by basis, and the engineering personnel transferred to other divisions in the Kaiser organization. This was a wartime development for use of the Hansgirg carbothermic process for reduction of magnesium from magnesia produced at two seacoast points, Moss Landing and Natividad. It was financed by a $28,475,000 RFC loan, repaid by Kaiser in 1945 with $3,500,000 interest.

The original process was not too successful in wartime for making metal, but it was discovered that "goop" magnesium dust mixed with oil produced an exceptionally good filler for incendiary bombs. Actual magnesium production was shut down in 1945, but improvement of the Hansgirg method was continued until about half of the original process was eliminated and success achieved early this year, on a pilot plant basis, of delivering magnesium in molten metal form instead of as dust. The Natividad and Moss Landing plants are now running full tilt making supplies for the steel, chemical and building industries.

Negotiations for the sale of Rosenberg Bros. & Co., California's largest dried fruit packing concern, to Consolidated Grocers Corp. of Chicago were under way at the time this issue of *Western Industry* went to press. Rosenberg Bros. & Co., familiarly known in the industry as "Rosie," operate seven dried fruit processing plants in California and three in Oregon, two rice mills in California and loading and handling stations in the principal growing regions.

Genius of the Rosenberg organization is Arthur Oppenheimer, reputed to have the instinct for buying vast supplies of prunes or some other commodity when all statistics and the unanimous opinion of the industry disputed his judgment, only to have Oppenheimer finally proved right and everyone else wrong. Consolidated Grocers Corp. dates back to 1941, and since then has gobbled up Sprague Warner, the Bartlett Co., and Reid Murdoch, three of the largest wholesale grocery firms in Chicago. Consolidated's sales for the year ending June 30, 1947, were $141,000,000.

### Open New Plant

Sherwin, Williams & Co. have begun operations in their new $400,000 synthetic resin manufacturing unit in Emeryville. Output of the plant will be used primarily in the company's varnish, paint and lacquer plants in Oakland and Los Angeles. Hitherto most of the alkyd resin requirements for Sherwin-Williams have been supplied from Chicago.

A field that seems to be a "natural" for helicopters is aerial photography, reports the Oakland Municipal Airport. Two photographers sent out from the airport in two Bell utility helicopters reported they were more versatile than other types of transportation, as they remained suspended at any altitude with very little vibration. The copters can fly up or down, sideways or backward, or hover in the air less than 75 feet above a spot at zero miles an hour.

The School of Management of Golden Gate College, San Francisco, has completed its first management institute. For eight weeks, 40 of the top labor relations men of the Bay Area gathered at the school once a week to discuss in detail the provisions of the Taft-Hartley and other legislation and the various aspects of good labor relations. The program of the institute provided an impartial, analytical presentation of recent labor legislation and the practical management problems which are arising as a result. Two sessions were devoted to presenting the views of organized labor.

This institute was the first of a series of such management conference and seminars planned by the school to explore current business problems on a clinical basis.


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# Coast Industry's Expansion Welcome In Mountain Area

***California is losing its old smug superiority, and the Northwest has awakened to its east-west dimension***

**REGIONAL REVIEW**
**The Continental Divide**

DENVER—One characteristic of the mountain states is the roaming instinct of its people. A surprising number of the residents of Montana, Wyoming and Colorado know their way around in such cities as Los Angeles, Seattle, Minneapolis, Chicago, New York and Washington, D. C.

The result is beneficial to the Rocky Mountain area, for the travelers bring home bright ideas picked up here and there. The up-and-coming atmosphere of such towns as Albuquerque, Billings or Colorado Springs reflects this easy familiarity with the life of metropolitan centers.

Visitors from the mountain states who have been in southern California the past few weeks have returned home filled with favorable impressions. They like the breath-taking speed of the airlines that now provide between-meals jaunts from Denver and Los Angeles, with all the more time for the traveler to devote to the object of his trip. They like the comforting modernity of airport facilities even at the minor stopping points, and aren't worried over occasional plane crashes that make sensational newspaper headlines and worry more timid souls.

The mountain men are impressed with the amazing industrial development Los Angeles and its suburbs are registering, and see in the decentralization of industrial plants into pretty rural towns all over California the counterpart of what is happening all over the mountain states today.

Particularly pleasing to the Rocky Mountain resident is the readiness with which Pacific Coast businessmen are expanding their operations eastward to the Continental Divide and beyond. The old smug superiority of the Californian when dealing with the hinterland is gone. Today the California businessman wants the en-

*(Continued on page 70)*

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*(Continued from page 69)*

tire West for his oyster, and is conducting himself accordingly.

The Pacific Coast industrialist worthy of the name discovered long ago that there is much to be gained by cultivating the neighbors all the way back to the great plains area. But usually he was a bit late and found that the boys from the Twin Cities or Omaha or Kansas City had been there first and had sewed up all the available business.

### Hands Across the Rockies

Eventually there developed a hands-across-the-Rockies spirit of friendly partnership and mutual respect. The Hearsts found that the gold in South Dakota's Black Hills is just as good as the gold in the Comstock Lode in Nevada. The same thing proved true with regard to mills and smelters, railroads and airlines, oil wells and the lucrative business of providing the tools to drill oil wells.

There was a time when the Los Angeles resident showed off and bragged. Today he is too busy "pumping" visitors for information about business opportunities, back where the visitor hails from. The visitor from the Rockies finds himself the center of an interested throng, wherever he goes on the Pacific Coast. "Tell us about Rangely." "What about Los Alamos?" "When will the Chicago Bridge & Iron Works be ready to use its new fabricating plant at Salt Lake City, near Geneva's busy steel mill?"

More people on the Coast and in the mountain-and-prairie states could profit by exchanging information and ideas concerning business opportunities. While the alert ones are doing just that, hundreds and thousands are missing out because they haven't found the right means of communicating with others sharing the same great interest.

A few regional periodicals are providing a clearing-house for information about the West as an economic unit — notably *Western Industry* — but such papers are read by people already sensitive to their opportunities.

So far as the newspapers are concerned, those in the mountain states show a more cosmopolitan attitude than do the larger papers published in Pacific Coast cities. More awareness of life in the West as a whole is displayed by the Great Falls Tribune or the Denver Post than by any paper you might name in Los Angeles or San Francisco.

The Pacific Northwest, if judged by its newspapers, does seem to be fully aware of its east-west dimension as well as the north-south axis, but this is not so true of the great area which might expect leadership from San Francisco, nor of the southwest which funnels into the Los Angeles market.

Metals continue to dominate the industrial picture in the West, as seen from the topmost peaks of the Continental Divide. And today the story is steel, rather than the precious metals or the base metals more commonly associated with the Rocky Mountain area.

The war against the Japanese may be forgotten in a generation or two, but the war-spurred steel industry in the West will still be flourishing and leading a host of lesser industries into a new order of things. It came just in the nick of time, too, when top-grade steel deposits in the Great Lakes area were petering out fast, along with good coking coal. The West offers the only bright spot in the dismal picture facing the U. S. steel industry after another decade.

With another $12,000,000 now scheduled to be spent improving the $220,000,000 steel plant at Geneva, Utah, there remains no doubt that the intentions of the U. S. Steel Corporation are honorable. Those who feared the colossus of steel was buying the Geneva plant only to junk it or keep it from becoming an important factor in the postwar picture now are satisfied.

The additional outlay at the Geneva plant will include construction of two finishing mills which will enable it to produce sheet steel for fabrication into automobile bodies, refrigerators and countless other products.

### Fabricating Plant For Salt Lake City

Dreams that someday the Geneva mills will be surrounded by dozens of steel fabricating plants may be coming true after all. Best news in months for the West's mountain states was announcement that a Salt Lake City fabricating plant is to be built in 1948 by the Chicago Bridge & Iron Company, fabricator of steel tanks and other metal structures. Keeping pace with the fast-growing petroleum industry in the mountain states, the new plant will be a boon to oil companies and drilling contractors. It also will help to meet the need for water works all over the West and probably will furnish some fabricated steel products for export to the orient.

Over on the eastern slope of the Rockies the big Minnequa steel mills of the Colorado Fuel & Iron Corporation at Pueblo, Colo., stretch and strain to hang up new production records month after month.

In September, the last month for which figures have been released, the Pueblo plant shipped 90,127 net tons of steel products to set a new all-time record. Heaviest tonnage was in heavy rails, accounting for 36,057 tons. Pig iron shipped amounted to 15,442 tons, along with 13,122 tons of heavy rail fastenings, 12,180 tons of structural steel and bars, 10,847 tons of wire products and smaller quanti-

*(Continued on page 72)*


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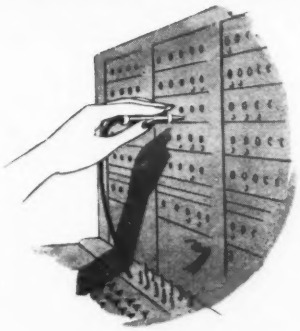

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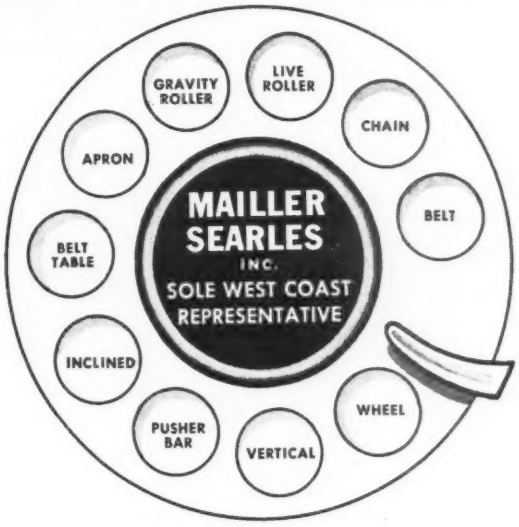


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# Coast Industry's Expansion Welcomed

*(Continued from page 71)*

ties of mine rails and fastenings, grinding balls, grader blades, etc.

### C. F. & I. Expanding

A $7,000,000 expansion program at five C. F. & I. plants, announced the first of November, will include a new rod mill and additional wire drawing equipment at the Pueblo plant, permitting a 33 per cent increase in wire manufacturing.

Rio Grande railroad officials stuck a feather in their caps and called it the first dividend payment in 36 years, amounting to $5 per share on the reorganized company's preferred stock. It is explained as a 50 per cent payment on the deferred accrued dividends for the years 1943 through 1947. Whatever it is, it helped the pioneer Colorado railroad to swing into a good earnings position. Wilson McCarthy, president, thinks the remaining $5 of deferred dividends will be voted when the board holds its next monthly meeting. Earnings for the past four years have been approximately $10 a share, making an effective annual rate of $2.50 and a deferred accrual of $10 for the four years.

Speaking of earnings, the Continental Oil Company announced that its net earnings had doubled in the first nine months of 1947, compared with the same period in 1946. Oil production had increased from 94,929 barrels daily in 1946 to 103,126 barrels daily in 1947. Wells completed totaled 377 compared with 308 during the same period the year before. Production of refined products increased by 24.6 per cent.

As if to temper the enthusiasm of anyone who might read news of record-breaking company earnings and then go out to get gloriously drunk by way of celebration, another oil company came forth with the sobering thought that a dollar in the late months of 1947 is worth just 55 cents, compared with a normal or 1939 dollar.

At Cheyenne, M. H. "Bud" Robineau, president of Frontier Refining Company, reminded his stockholders that fancy earnings figures must be taken with a grain of salt because costs are up even more than profits.

"Inflation has hit industry as well as everybody else," Robineau declared. "If an oil company maintains the physical volume of its plant, it must put in about $2 now for every dollar put in in 1939. Refinery equipment that cost $400 a barrel of capacity before the war now costs $1,000 a barrel. A mile of pipeline that formerly cost $12,000 now costs $30,000. It costs twice as much now to build a filling station, and the cost of finding and producing a barrel of oil is about four times as great as in the period before the war."

### New Uses For Silicone Told at Meet

Elimination of pigment floating or streaking in paints that have more than one pigment color, the reduction of "orange peel" in sprayed lacquers and enamels, and the prevention of foaming in water paints were among the important new uses claimed for silicone products by James R. Patterson of General Electric's Resin and Insulation Division at the recent Pacific Chemical Exposition in San Francisco.

Silicone resins will withstand an exposure to 500°F. for several hundred hours without appreciable color change or loss of gloss, Mr. Patterson said. These enamels remain flexible at minus 60°F. and will endure long immersion in boiling water and dilute mineral acids and alkalis.

Silicones blended with other film-forming materials closely approach straight silicones in heat resistance and show little deterioration after long exposure at 500°F. Mr. Patterson also stated that the use of a very small quantity of G.E. silicone oils, paints and enamels would restore badly floculated paints to acceptable condition.


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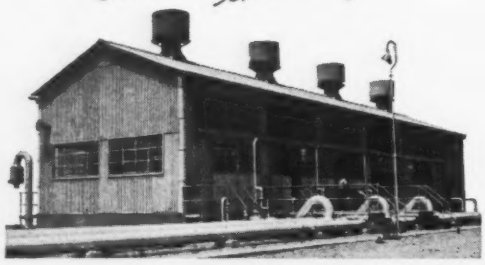

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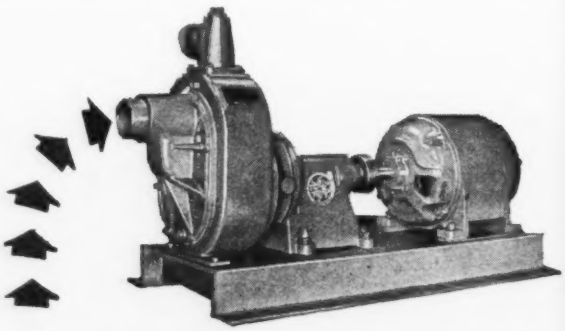

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# Rain Eases Northwest Power Shortage for Coming Season

***At Grand Coulee Dam the seventh generator goes into operation to increase capacity by 120,000 kilowatts***

REGIONAL REVIEW
**The Pacific Northwest**

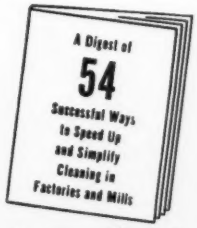
PACIFIC NORTHWEST — Record heavy October rains in the two coastal states of the Northwest, plus the coming on the line of No. 7 generator at Grand Coulee dam, should be of material assistance in easing this area over the serious hydroelectric generating capacity shortage during the coming months of peak demand. Early prognostications had been that a dry fourth quarter might require fuel oil supplies for steam plants beyond the ability of California oil companies to supply.

That threat seems now to be pretty well out of sight. New October records for precipitation were set at Portland with 9.7 inches, at Tacoma with more than eight inches, at Seattle with 7.4 inches, and at Spokane with 5.4 inches. While normally wet locations (such as Valsetz, Ore., which received some 10 inches of rain over the normal 16-inch October fall) were even wetter than usual, the more arid eastern two-thirds of the two states also benefitted, and at the end of the month indications were that November would see material additions to the all-import water supply.

At Grand Coulee dam, Bureau of Reclamation structure on the Columbia River 90 miles west of Spokane, the seventh 108,000-kilowatt generator was placed in operation on October 20. Since the generators at Grand Coulee and Bonneville dams have been operated at 10 to 15 per cent overloads since the beginning of the war, the new generator will actually mean an increase of 120,000 to 125,000 kilowatts in the electric generating capacity.

Grand Coulee is still not up to its wartime capacity, however, and will not be until February of next year when the eighth generator is scheduled to go into operation. Early in the war additional generating capacity was provided at Grand Coulee by the installation of two 75,000-kilowatt generators which had been manu-


**Digest Tells How To Strip Paint, Clean and Descale at Less Cost**




THE Digest shown above gives you easy-to-follow work sheets sure to simplify many cleaning, descaling, paint-stripping and sanitation jobs in your plant. 54 chores simplified with Oakite compounds and field-proved methods.

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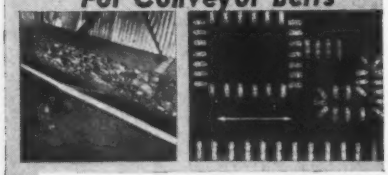
# Present Day Practice in Belt Fastening

Every man who has anything to do with the purchase, application or maintenance of conveyor, transmission or V-belts will find the bulletins listed below of considerable value in connection with belt fastening work. A knowledge of present day practice in belt fastening helps reduce the loss in machine hours due to belt failures caused by the use of the wrong type of fastener or improper application. We shall be glad to send any or all of them to you or to any of the men in your organization.

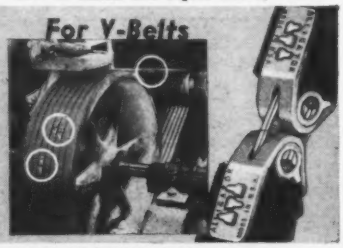
## For Conveyor Belts



**FLEXCO HD Belt Fasteners** are used to make a "water-tight" butt joint in conveyor belts ranging from ¼" to 1½" thick and of any width. The view on the right shows the various types of rips that can be repaired with these fasteners and Flexco HD Rip Plates.

**Bulletin F-100** gives complete details on how to fasten and repair conveyor belts.

## For V-Belts



**ALLIGATOR V-Belt Fasteners** are now being widely used to fasten B, C and D, open-end V-belting of cross woven fabric core construction now being made by most belting manufacturers. The view at the left shows a typical application of these fasteners to a drive where endless V-belts would require dismantling the machinery to put the belts on the sheaves.

**Bulletin V-205** gives complete instructions on how to use V-belt fasteners.

**FLEX V** Fasteners for A and B belts are also available for lighter duty V-belt drives. Ask for **Bulletin V-14.**

## For Transmission Belts

**ALLIGATOR Steel Belt Lacing** is in world-wide use to make smooth, flexible joints in leather, rubber, balata, stitched canvas or solid woven belts up to ⅛" thick and as wide as they come.

**Bulletin A-60** tells how to fasten and repair transmission belts.

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*(Continued from page 73)*

factured for Shasta dam on the Sacramento River in northern California. In the spring of 1946 these two generators were removed for return to Shasta and to make room for the full-sized units now being installed at Coulee.

Ultimate generating capacity at Grand Coulee will include 18 of the 108,000-kilowatt machines plus six 10,000-kilowatt station service units. Installation of generating facilities in the left power house is scheduled to be complete by May, 1948, when the ninth unit is to be ready for operation. It will be nearly a year later before the first unit in the right power house is ready for operation, but three units are expected to be producing electrical energy by the end of 1949.

### Narrow Margin

The narrow margin on which Northwest hydroelectric generating facilities are operating was indicated during the last week of October when two major generators were shut down for several days by mechanical difficulties. Loss of output from the new unit at Grand Coulee and a 55,000-kilowatt unit at Bonneville dam came during a week when the peak demand in the western section of the Northwest power pool was 2,574,000 kilowatts and left a reserve capacity of only 99,000 kilowatts above that figure. However, with all units operating and 90,000 kilowatts available from Montana to meet emergencies, it is expected that winter peak power demands will be met without serious difficulty.

Going back to the subject of rainfall (on which electric generation is so dependent in the Northwest), General Electric Co. reported from Schenectady, N. Y., that it was considering Oregon and Washington as locations for large scale snow-making experiments using silver iodide smoke. Last spring Vincent J. Shaefer, General Electric physicist, conducted successful experiments near Portland with making rain on a small scale by the use of dry ice scattered into clouds from an airplane. This method was widely used during the summer with varying success in many parts of the United States.

The smoke method can apparently be used on a much larger scale by utilizing ground generators of the type used by the Chemical Welfare Service during the war to lay down smoke screens over large areas. The smoke carries particles of silver iodide which become the nuclei of snow drops when the smoke drifts into clouds where moisture is unfrozen but below freezing temperatures.

Particularly good conditions for seeding clouds by this method are said to exist in Washington and Oregon, and it is thought that considerable amounts of water could probably be stored on mountain slopes in the form of snow for later use in irrigation and power.


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Another phase of the power generating picture has been the recent prediction, voiced in connection with the plans for further hydroelectric plants in the Northwest, that atomic energy will be turned to such uses and make obsolete the big dams and their generating equipment. In this connection the authoritative statements made by David E. Lilienthal, chairman of the Atomic Energy Commission, in a talk before the Economic Club of Detroit, Mich., are of some interest to the Northwest with a major atomic energy plant in the Hanford Works at Richland, Wash.

**SEATTLE — Seven new industries opened plants here during September with production varying from aircraft skiis to monogrammed party favors. Established industries spent $886,000 in new construction and expansion completed during the same month.**

**Increasing employment in the plant of Boeing Aircraft Co. helped materially to stabilize industrial employment during October. By the middle of the month employment at the Boeing plant had reached 14,700 with the immediate goal of 15,000 in view. Seasonal unemployment this winter is expected to be materially less than last winter.**

**Northwestern Life Insurance Co. announced plans to construct a $1,250,000 12-story home office building here shortly after the first of the year. Completion of the building to its ultimate height is expected to extend over a five-year period.**

According to Lilienthal a demonstration plant on the scale of 1,000 kilowatts generating capacity can, and probably will, be developed within the next year or two. However, to overcome technical difficulties, and to have a useful, practical demonstration plant in operation is expected to require at the minimum eight to 10 years.

Four elements to the problem of making atomic power a practical reality include transformation of the energy to a usable form, securing a reasonable rate of generation per unit of nuclear fuel, development of adequate stocks of such fuel, and prevention of fuel loss in the complex handling of the fuel.

Low temperature energy not directly used for power production is generated by the plutonium factory at Hanford. However, the Hanford reactors were built for the prime purpose of manufacturing plutonium and the energy they yield in the form of heat is wasted into the Columbia River as a nuisance.

When useful power and not plutonium is the prime objective, a host of problems arise in which the Hanford experience offers no answers. There is as yet no firm basis for comparing the cost of useful power from nuclear sources with those of conventional fuels, but the immediate importance of discoveries concerning nuclear fission does not seem to be as a source of electricity and heat.

*(Continued on page 76)*

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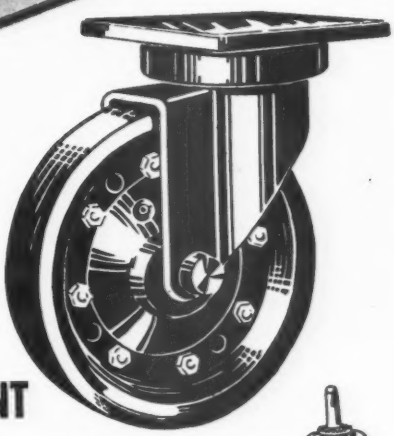

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# Rain Eases Northwest Power Shortage

*(Continued from page 75)*

In closing his talk Lilienthal urged that additions to power supply not be delayed with the expectation that atomic energy will appear suddenly as a source of supply. An atomic energy industry will not spring into being overnight, but will certainly follow the course of supplementing existing economical sources of energy supply. He emphasized that no one has been willing to estimate either the economic costs or the amount of atomic power that will be ultimately available.

It might be added that the Hanford plant is a major power consumer, using both electrical energy and Washington-mined coal in some quantity. While the amount of electrical energy consumed at Hanford is considered as restricted information, it is fairly well established that it ranks not too far below the aluminum reduction plants as a power user.

Returning to the subject of available electric power in Oregon and Washington, the Northwest power pool, organization of both private and public utilities in the Northwest states, is expected to revise its estimate of future requirements, and the revision is expected to be upwards. Frank Warren, executive vice-president of the Portland General Electric Co., Portland, was appointed chairman of a committee detailed to study estimates of demand through 1956.

**TACOMA**—Expansion plans of the Port of Tacoma for 1948 include doubling the capacity of its cold storage plant at a cost of $450,000, reconstruction of pier No. 1 at a cost of $250,000, and continuation of area improvements including dredging, construction of streets, and water mains at a cost of $630,000.

Washington Cooperative Farmers' Association expects to complete its new feed mill and have it in operation by April 1. Following completion of the mill a concrete warehouse will be constructed. Total cost of the program is about $1,500,000.

St. Regis Pulp and Paper Co. has been granted a building permit to construct a $30,000 precipitator shell as a part of the company's extensive expansion program here.

A year ago the pool estimated that by 1953 the demand for electrical energy would exceed planned capacity by some 1,565,000 kilowatt-hours. Some members of the pool consider that estimate too conservative in the light of rapidly increasing power use and the new estimate has been requested.

Another heavy energy demand has been placed on the generating system with the opening of operations at the Tacoma aluminum reduction plant by Permanente Metals Corp. The Tacoma plant was purchased from War Assets Administration by Permanente nearly a year ago, and has been ready for operations since last April. The opening of the plant only 10 days after additional generating capacity became available through the new Coulee generator suggests that at least one reason for the delay was the shortage of required electrical power.

Production of aluminum pig at Tacoma will give Permanente another 42,000,000 pounds capacity in addition to the 180,000,000 pounds which it already has at the Mead plant near Spokane. Most of the Tacoma plant output is expected to go to the Trentwood rolling mill, also operated by Permanente, with the remainder allocated to the pig and ingot market. During October the rolling mill operated at the highest capacity since postwar operations began 15 months ago.

### Carborundum to Get Bonneville Power

Another contract for future power deliveries was signed by the Bonneville Power Administration with the Carborundum Co., which will build a $2,000,000 abrasives plant at Vancouver, Wash. Carborundum will get 10,000 kilowatts not


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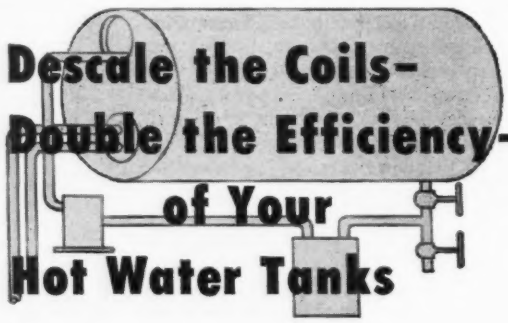

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later than April 1, 1949, and the contract calls for delivery of as much as 75,000 kilowatts by January 1, 1950. An earlier short-term contract between Bonneville and five Northwest utility companies, privately owned, has been approved by the Federal Power Commission. Under this contract Bonneville will deliver some 335,000 kilowatts to the five utilities supplying various parts of Oregon and Washington.

**PORTLAND—Bemis Brothers Bag Co. has awarded a $500,000 contract to Ross B. Hammond Co. for construction of its new plant in Vancouver. Upon completion of the plant about May 1, 1948, the company plans to move all of its operations from St. Helens to Vancouver.**

**Employment in the Portland area of Oregon was about 1,700 higher in September of this year than in 1946. Although agricultural employment is beginning its seasonal decline, industrial employment increases are expected to account for 1,500 to 2,000 new jobs in the succeeding 60 days.**

**Fowler Manufacturing Co. has moved some of its departments into a new building which will provide additional production and warehousing space for the manufacture of electric water heaters. The new $100,000 building is located across the street from the existing plant.**

Power continues to be the subject of a tug-of-war between public ownership and private enterprise in the Northwest. Announcement that a merger of Pacific Power and Light Co., Portland, and Washington Water Power Co., Spokane, was being planned resulted in immediate opposition on the part of public power interests in Washington. Representatives of public utility districts in Washington argue that merger of the two companies, which are both controlled by American Power and Light Co. at present, will result in a power monopoly in a large part of Oregon and Washington which would be detrimental to the public ownership movement.

In Washington, where the public ownership trend is the strongest (70 per cent of all generating capacity is publicly owned), the state department of public utilities has retained outside counsel to present the state and public power interests at a hearing on the merger. Immediate aim of the merger is the acquisition by Washington Water Power of the common stock of Pacific Power and Light, to be followed ultimately by sale to the public of the Washington Water Power common stock.

Sale of Puget Sound Power and Light Co. to 13 public utility districts and the city of Seattle is still being actively considered, despite the state supreme court decision which invalidated a plan whereby the Skagit County P.U.D. would have purchased the entire system for $135,000,000 and presumably resold portions to the individual districts.

Seattle will appoint a board to investigate the value to the city of merging Puget Sound properties with those of the city lighting department which operates a competing system within the city. Districts outside Seattle are planning separate bond issues to finance various portions of the Puget Sound system lying within each district.

### Gas and Oil Hunt

In the hunt for oil and gas in the Northwest another notable failure has been announced by the Standard Oil Co. of California which has been drilling near Everett, Wash. After going down 11,000 ft., the deepest well ever drilled in the state, the company abandoned its efforts when no indications of either gas or oil were discovered. Over on the Olympic Peninsula near Grays Harbor the Union Oil Co. abandoned its third well and started its fourth. Shell Oil Co. is drilling southeast of Seattle near Enumclaw with no results announced to date.

Several interesting developments with future industrial possibilities have come to light recently in the wood waste utilization field. Two separate developments for the production of charcoal from sawdust and other waste timber products are approaching a new stage of development in Oregon. The most immediate appears to be the plan of the Phillipson Retort Manu-


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# Rain Eases Northwest Power Shortage

*(Continued from page 77)*

facturing Co., Inc., to build the first of a possible series of retorts for the manufacture of charcoal briquets from sawdust.

SPOKANE — Two major building programs were the principal announcements of interest here during the month of October. Spokane Interstate Fair, Inc., will undertake $1,000,000 building program early next year on a new site which has been in the process of acquisition for some time.

Davenport, Inc., operating firm of the Davenport hotel, is planning construction of a $1,250,000 motor lodge which will be designed as one of the most elaborate structures of its kind. The lodge is to be situated between the city and Geiger Field on the west.

H. S. Phillipson of Portland has been working on a continuous production process for some 12 years, and with the backing of a number of sawmill operators in the Eugene, Ore., area is expecting to start immediate construction of a single retort. Six months of operation are expected to be sufficient for determination of final design features, and if the operation proves to be as successful as hoped, a series of 10 or 12 retorts will be constructed in the Eugene area.

Principal features of the process are continuous automatic production of charcoal briquets with a more complete carbonization than any process developed so far. The first unit is expected to cost in the neighborhood of $40,000 and the complete plant about $500,000. According to Phillipson the process can be successfully adapted to use any type of wood waste including logging slash, rotted logs, or sawdust, at a material reduction of present charcoal costs.

A somewhat similar idea has been the subject of considerable experimental study under the joint sponsorship of the Bonneville Power Administration and the forest products laboratory of Oregon State College. Dr. Phimster B. Proctor, director of the laboratory, has reported that private industry will join the two original sponsors in financing construction of a pilot plant at Corvallis to prove the practicability of the process.

### Engine Rebuilders In Active Period

Automobile engine rebuilders in the West seem to be setting the pace for the rest of the country in the standard of work they are turning out, according to reports received at the convention of the Western Engine Rebuilders Association at San Francisco in October. The field is currently very active, because of the shortage of new cars, while skilled labor and parts are fairly available.

Better equipment for engine rebuilding has become available since the war, such as small heavy duty crankshaft grinders, heavy duty valve machines and multiple spindle boring bars. Rebuilders are hampered, however, by the fact engines and blocks are scarcer on the Pacific Coast than elsewhere in the country. This is due to the greater average age of cars in this area and less scrapping and junking. Insistence that the car owner turn in his motor when he buys one that has been rebuilt has been found to be the rebuilders' only protection against shortage of supply.

Rebuilders were urged at the convention by O. C. Dunkin of Sterling Aluminum Products, St. Louis, to concentrate on fleets and industrial accounts rather than going after mere volume, because such customers are better able to install jobs properly, an essential factor in obtaining satisfactory results from the use of rebuilt engines. He reported that new car dealers are going in for engine rebuilding and that this will tend to decrease their parts business considerably.


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# Utah Proposes A Colorado River Basin Commission

***The seven-state planning agency would bring about a water division and carry out over-all development of the river system***

SALT LAKE CITY—A valley authority without the "authority" is being advocated by Utah interests as a means of bringing about a water division and concurrent development in the Colorado River basin.

The Utah proposal calls for the creation of a Colorado River basin commission composed of the governors of the seven interested states, the secretary of the interior and the secretary of agriculture. The theory is that this commission could serve as the top level agency for planning and carrying out the over-all development of the river system, thereby providing many of the advantages offered by a basin-wide

**REGIONAL REVIEW**
**The Wasatch Front**

authority without the surrender of local and state rights to a federally-created agency.

This plan, of course, contemplates the surrender of some state prerogatives to the commission, but the make-up of the body would guarantee retention of control, collectively speaking, by the states within the basin.

The most obvious question is whether the seven states would find it any easier to agree through the medium of the proposed commission than through the compact commissions which have heretofore been set up.

Certainly, to make the setup effective, the individual states would have to forego the power of veto. And in the skirmishes to date, most of the states have been somewhat more disposed to trust the federal government than each other.

The idea will undoubtedly have more appeal in Utah than in some of the states which have been doing well in the competitive scramble for Colorado River projects — notably California and Colorado. For there is a growing suspicion in this

*(Continued on page 80)*

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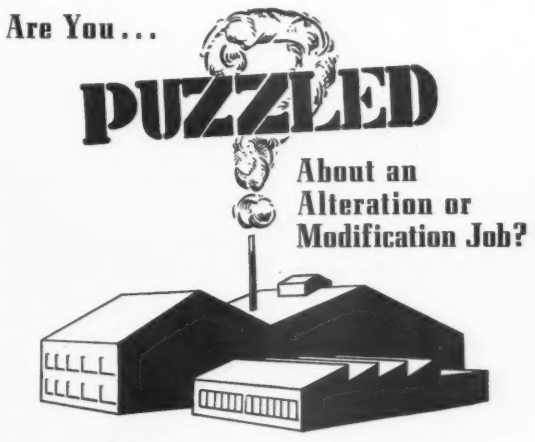
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## Colorado River Basin Commission

*(Continued from page 79)*

state that the rosy future predicated on Colorado River water and power development is slowly slipping away so far as Utah is concerned.

A rough outline of the state's Colorado River hopes has been sketched out in a power requirements survey made by the Federal Power Commission in cooperation with the Colorado River Committee of Utah. The study was authorized by the 1945 state legislature as a means of getting some idea of the extent to which proposed projects might be financed from power revenues. For irrigation, it is conceded by everyone, could pay only a minor part of the costs of the development.

The main question which the survey sought to answer was this: Is Utah's present and potential power market large enough to absorb the power that would have to be sold to make such developments as the Central Utah economically feasible? The study answers the question in the affirmative, though some might question the assumptions upon which that answer is based.

By projecting the past power consumption pattern to 1970, and making several assumptions which the researchers deemed to be reasonable, the survey comes up with an estimated total power need by that year of 892,400 kilowatts of installed capacity with an annual output of 4,285,140,000 kilowatt hours. Inasmuch as existing net capacity is 185,614, the estimated increase that will be needed by 1970 is 706,786 kilowatts of installed capacity. This, incidentally, would represent an increase of about 230 per cent in less than a quarter century.

The survey assumes that population increase will be more rapid than it has been in the past; that per capita consumption on farms and in homes will continue to increase; that expanded and new industries will greatly enlarge the industrial load.

### Industries For Utah

Some of the new power-using industries which the researchers specifically mention are: copper and zinc refining, alloy steel, extraction of magnesium from the brines of Great Salt Lake or from the carnallite deposits of eastern Utah, production of caustic soda and chlorine from the brines of Great Salt Lake, and commercial fertilizers from the phosphate deposits of eastern Utah.

"Definite possibilities," the survey states, "exist for the economic operation of plants of the type mentioned. . . . In making estimates of future requirements these possibilities were considered and the power requirements shown are based on installations which are believed to be probable."

The estimated 1970 power load would require the output of seven plants on the proposed Central Utah project, two plants on large storage reservoirs on the main Colorado River stream and three small plants on the Virgin, plus 120,000 kilowatts of steam-electric capacity for fill-in during extremely dry years.

Total cost of the projects of which the 12 power plants would be a part is estimated at $453,911,000, of which $105,966,000 would represent direct power costs, exclusive of transmission.

United States Gypsum has started construction on a $1,000,000-plus wall board and plaster plant at Sigurd, Utah.

The Reliance Manufacturing Company of Chicago recently closed its plant at Manti, Utah, principally because of material shortages and a two-way freight rate squeeze. The plant manufactured parachutes during the war and later was converted to men's sport jackets. More than 80 per cent of the production was sold east of Denver and all the cloth had to be shipped from the east.


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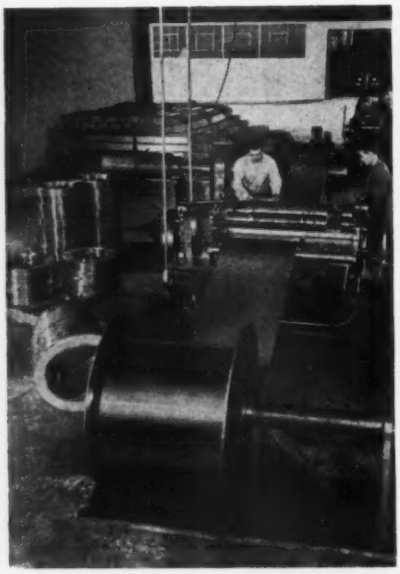

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# Westerners Need to Bone Up on T-H Law

PACIFIC COAST industrialists are not too well versed on the provisions of the Taft-Hartley Act, and a surprising number of them do not intend to discuss the provisions of the act with their employees.

These facts were brought home rather forcibly at the session of the Collective Bargaining Clinic of the recent Pacific Coast Management Conference at Berkeley. The clinic was held for the purpose of answering questions in regard to the effect the Taft-Hartley Act will have on both management and labor.

The Collective Bargaining Clinic was composed of a panel of foremost industrial relations men as follows: R. F. Ahrens, vice-president United Airlines, Chicago; Albert C. Beeson, industrial relations director, Food Machinery Corporation, San Jose, California; W. F. Boyle, vice-president and general manager, Pelton Water Wheel division of Baldwin Locomotive Works, San Francisco; Henry Golightly, personnel manager, Rheem Manufacturing Company, New York; George Hodge, assistant to vice-president International Harvester Company, Chicago; Henry T. Lintott, industrial relations consultant, California Personnel Management Association; Eric Nicol, formerly vice-president and director of industrial relations, United-Rexall Drug Company, Los Angeles; Herbert O. Eby, general labor relations director, Pittsburgh Plate Glass Company, Pittsburgh, Pa.

As a matter of curiosity, Mr. Eby asked for a hand vote in regard to first: the number of employers who made an effort to explain the Taft-Hartley Act to their employees—result, about 35 per cent; second: the number of employers who have not explained the provisions of the act to their employees — approximately 30 per cent; third: those employers who have no intention of explaining the new law to their employees — surprisingly about 40 per cent raised their hands on this one. This latter vote interested Mr. Eby, but no comment was made.

The questions put to the clinic were for the most part rather vague, and both the questioners and the members of the clinic, with the exception of Mr. Eby, were quite frank to admit they were somewhat in the dark about the whole thing.

Mr. Eby, a former National Labor Relations Board attorney and a specialist in labor law, seemed to be the only member

*(Continued on page 82)*


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# Westerners Must Bone Up on T-H Law

*(Continued from page 81)*

of the panel who could actually answer the questions which were thrown thick and fast at him. His attitude is that any question arising between an industrialist and a union should be handled in the most simple way possible. For instance, if a contract is drawn up and agreed upon, it would be desirable to have the local and the national officials of the union sign, but if there is some question as to whether the local need sign, Mr. Eby said not to make an issue of it, but to accept the signatures that do appear on the contract.

### Not Such a Nightmare

"Unions have found that the Taft-Hartley Act isn't such a horrible nightmare as was depicted to them," said Mr. Eby. "Employees are gradually realizing that the amendments of the act restrict the union only in its abuses to workers. Any defects in the Taft-Hartley law are commensurate with the protection it provides the worker. After all the hullabaloo in regard to the 'slave act,' unions can't lose face and back down now. They can't say that after all the new act isn't so bad, and things can be adjusted peaceably. However, that is just what is happening. Adjustments between labor and management are being made amicably."

What the Wagner Act was to labor, the Taft-Hartley Act is to management, explained Mr. Eby. Management became "too big for its britches" and had to be restrained. Now it is labor's turn. The provisions in the Taft-Hartley law were necessary, and it was inevitable that the law would come. "The standards advocated by the National Labor policy of this country have the effect of guiding both labor and management to a more acceptable pattern," he declared.

There is no reason why an employee should feel grateful because he is working. He doesn't want to feel grateful — he wants his independence. He has every right to organize and join a union, and management has no right to make him feel disloyal because he votes a union into his shop. These are more of the rather startling statements made by Mr. Eby, who seemingly was the star actor at the meet, which was comprised of personnel and industrial men from approximately 40 large eastern firms with branches on the Coast.

## New Conciliation Service For Industrial Disputes

The newly organized California Conciliation Service in the department of industrial relations, headed by Glenn Bowers, is now ready to accept requests for assistance in the settlement of labor disputes upon the request of any bonafide party.

This new service makes it possible for one party to a labor dispute to file a request for a hearing, instead of two as originally enacted in Section 65 of California Labor Code of 1939.

The new system features a joint policy of cooperation between the state service and the Federal Mediation and Conciliation Service, under the direction of E. P. Marsh, regional director for the 11 Western states. Mr. Marsh may intervene in a labor dispute but if he finds that commerce is not affected or affected to only a minor extent, parties would be referred to the state service.

This new service is to be used as a preventive measure, and in no way conflicts with the National Labor Relations Board, according to Mr. Bowers.

Briefly this is how to use the conciliation service to best advantage: After an effort has been made to settle a labor dispute through collective bargaining, but before a work stoppage becomes threatened, it is advisable to request assistance from the


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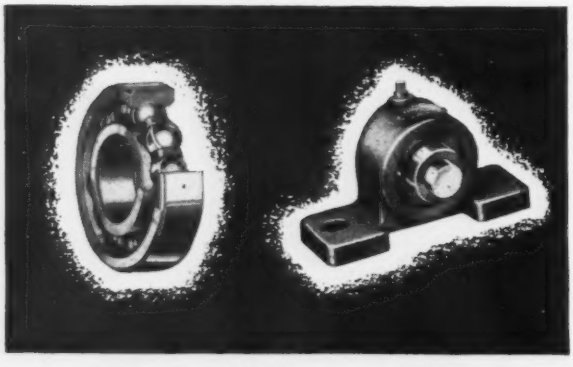

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conciliation service. An impartial conciliator is assigned to the case and contacts both parties. An attempt is made to develop solutions mutually satisfactory.

Neither party is required to accept the recommendations of the conciliator. If an agreement is not reached, the parties may request an arbitration board. Each party will designate one representative or more to the board, and an odd man to act as chairman, selected through mutual agreement. The impartial member may be drawn from the public or from the department of industrial relations. Parties agree in advance that the decision of the board will be binding.

The cost of arbitration and the fees of the impartial chairman are divided equally between the two parties. If a state employee serves as chairman, no charge is made for his service.

A request for state services may be made by addressing a letter or telegram to Paul Scharrenberg, Director, Department of Industrial Relations, 965 Mission Street, San Francisco 3.

### Full Year Vacation After Ten Years

Employees of American Electric Motors, Inc., Los Angeles, can now look forward to a 12-month paid vacation upon completing 10 years of continuous employment.

Effective immediately, all unmarried employees will be given an annual paid holiday on their birthdays, and married employees will be given the extra holiday on their wedding anniversaries.

According to Phillip W. Zonne, vice-president-treasurer of AEM, this revolutionary vacation plan is an investment in good relations between management and employees.

The problem of financing the vacations will be met by setting a sum of money aside for each new employee. After 10 years this money will, with accrued interest, pay for the employee's year vacation. To meet the problem of temporarily replacing key men taking a 12-month vacation, Mr. Zonne plans an extensive employee training program. AEM now has 50 full-time employees.

### S. F. Laundry Wages Highest in U. S.

Wages paid to employees in San Francisco and Oakland power laundries were among the highest in major U. S. cities, a U. S. Department of Labor report shows. Nearly three-fourths of the men included in the study were paid at least $1.25 an hour. Few of the women employees received less than 75 cents an hour, and among women bundle wrappers, the highest average rate was $1.05. Stationary boiler firemen received, on the average, $1.63 an hour.

### Stronger Program Planned Against Child Labor

The number of minors illegally employed in industry throughout the nation has increased materially, although a slight decline was noted in the Western states during the first three months of the fiscal year—July, August and September—according to a report by Mrs. Elizabeth B. Coleman, child labor division, in a conference with John R. Dille, regional director of the eight Western states of California, Washington, Oregon, Idaho, Montana, Utah, Arizona and Nevada.

At a special hearing in Washington an order was considered extending to 18 years the minimum age for most occupations in logging pulpwood, chemical wood, excelsior wood, cordwood, fence posts and similar wood.

A stronger enforcement program against oppressive child labor in industry is now being mapped out by the Wage and Hour and Public Contracts Divisions, U. S. Department of Labor.

A new unit, known as the Child Labor Branch, has been established within the Wage and Hour and Public Contracts Di-


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NORRISTOWN, PENNA.
PACIFIC COAST PLANT: LAVERNE, CALIF.
*Offices in Principal Cities*

## Westerners Must Bone Up on T-H Law

*(Continued from page 83)*

visions to direct the campaign against exploitation of minors in all industries.

Mrs. Coleman and Mr. Dille conferred at regional headquarters in San Francisco.

### Year-End Bonus For Employees?

Big earnings of many companies heighten talk of year-end employee bonuses.

A Los Angeles maker of airplane parts will make a larger disbursement this year than last. A score of other companies queried declared it was too early to say yet, but most indicated the bonus question was scheduled for early deliberation, according to information received in a Business Bulletin survey.

One West Coast bank is dubious about the bonus business, and had a rather gloomy attitude about the whole thing, intimating that banks are getting more and more expense-minded.

### Precedent Decision on Disability Insurance

Full and complete protection will be afforded an injured worker, even though he may be able to accept "light work." This decision was given by the California Unemployment Insurance Appeals Board who upheld the original intention of the Disability Insurance Act.

The Board found that "under the provisions (of the original Disability Act) a claimant is 'disabled' if he is unable to perform his regular or customary work, and that it is immaterial whether he is able to perform 'light work'."

This decision, No. D-52, is of extreme importance, and the result may well be that where an individual workman's compensation is terminated because he is able to return to light work, he may then be eligible for disability insurance.

Attempts were made at the outset to incorporate in the disability program these "light work" concepts which are found in the workmen's compensation program. With this decision, it is evident that sponsors of such moves will not be successful in deleting from the disability program the intent to cover such people, as it was originally framed.

### Products Wanted From Calif. Manufacturers

California manufacturers have opportunities to sell many products which are now being bought outside the state, reports the California Manufacturers Association. Among them are the items listed below, and the notation "BP" means buying price:

150,000 porcelain insulators.

Overalls.

35,000 ironing board pad and cover sets; approximate buying prices from 89c to $3.49 less 50 per cent.

6,000-8,000 utility tables; enamelled steel; 30½ in. high, two 16x22-in. shelves; rubber foot pads; approximate BP $6.95 less 50 per cent.

12,000-15,000 aluminum food choppers for grinding foods; cast and polished aluminum, steel bushings, two nickel-plated steel cutting blades, table clamp; approx. BP $3.29 less 50 per cent.

28,000 bicycle chain guards:

a. 10,000 stamped chrome-plated steel, brackets and installations hardware; approx. BP $1.39 less 50 per cent.

b. 18,000 stamped, polished aluminum, with safety reflector, brackets, hardware; approx. BP 59c less 50 per cent.

Automobile frames, radiators, mufflers and tailpipes.

Fabric lined garden hose, two ply; approx. BP $6.95 per 50 feet less 50 per cent. (Two inquiries.)

Lawnmowers, hand-type, five-blade, 17-in. cut; approx. BP $16.95 less 50 per cent. (Two inquiries.)

Lawnmowers, power-type, 1½ h.p. four cycle, 21-in. cut; approx. BP $129.50 less 50 per cent.

### For Export

Wheel alignment equipment, sparkplug testers, boring bars, complete line other general garage equipment. Letter of credit with San Francisco bank upon order placement.

Full line of aluminum ladders. Advised dollar exchange available.


60 YEARS OF SERVICE to INDUSTRY

SUPPLYING WASHERS and STAMPINGS

OF EVERY DESCRIPTION FOR EVERY PURPOSE... UTILIZING MORE THAN 22,000 SETS OF DIES

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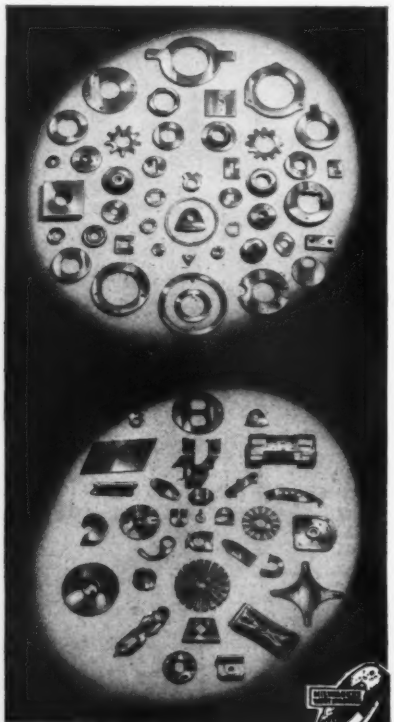

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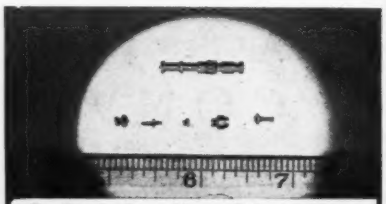

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# THE WEST ON ITS WAY

## ARIZONA

TOWEL SUPPLY COMPANY BUILDING NEW PLANT—American Linen Supply Co., which recently purchased Uneeda Towel Supply from the Arizona Laundry, is building a new plant at 19th Ave. and Buckeye Road, Phoenix, to cost $400,000.

OXYGEN COMPANY TO BUILD—Dye Oxygen Co. plans construction of a plant in Phoenix at 33rd Ave. and Christy Road, where they will make oxygen and acetylene. Plant will cost $225,000. Gil V. Dye, formerly of Houston, Texas, is president.

NEW LUMBER MILL AT WILLIAMS—White Lumber Co. is building a new lumber mill at Williams for the manufacture of box shooks, moulding and cut furniture stock. Mill will have capacity of 10,000,000 ft. Heading the firm are T. N. White and Harold Crain of Haining Lumber Co., Prescott.

SMELTER TO BE REMODELED—American Smelting & Refining Co. is planning to remodel its smelter at Globe, making improvements to cost $500,000.

MISSION ASSIGNS TERRITORY IN TUCSON—Harry T. Baker has been granted a Mission Orange bottling franchise in Tucson, to include territory in Pima and Santa Cruz counties and a portion of Pinal County.

## CALIFORNIA

WAA OFFERS PLANT AT MANTECA—The industrial plant at Manteca which Permanente Metals Corp. operated during the war to produce magnesium, has been offered for sale by War Assets Administration. WAA recommends the plant for general manufacturing, calcining or fertilizer plant, assembly canning or dehydrating. Plant occupies 24 acres, costing the government $5,847,305.

SHERWIN-WILLIAMS BEGIN OPERATIONS — Sherwin-Williams Co. of California have started operations at their new $400,000 synthetic resin unit of their Emeryville plant. It will provide supplies to the firm's paint and varnish branches at Oakland and Los Angeles.

OAKLAND COMPANIES EXPANDING—Among Oakland's recent major plant expansions are **American Pipe and Construction Co.**, a $500,000 expenditure at 787 - 85th Ave. . . . **National Iron Works**, spending $75,000 at its plant at 32nd and Hannah streets. . . . **Paramount Built-In Fixture Co.**, expansion worth $150,000 at 962 Stanford Ave. . . . and **Walkup Company's** $75,000 expansion at 14th and Wood streets.

NATIONAL DYEING & FINISHING TO BUILD—National Dyeing & Finishing Corp., formerly at 941 E. 62nd St., Los Angeles, has purchased 2½ acres on Hayden Ave., Culver City, and will build a 50,000-sq. ft. plant to carry on dyeing, mercerizing, bleaching, sanforizing, and water, flame and mildew repellent treatment. Investment is estimated in excess of $500,000.

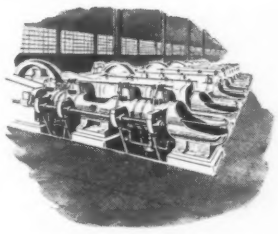
OPERATIONS BEGUN AT 3M PLANT—Operations have begun at the new $750,000 plant of the Minnesota Mining and Manufacturing Co., 6411 Randolph St., Los Angeles, where the company is making adhesives, coatings and sealers for use in automotive and aircraft manufacturing and general industry. The one-story building includes 52,000 sq. ft. of factory and warehousing space, and 32.000 sq. ft. for offices and principal warehousing facilities. L. F. Weyand, vice-pres. in charge of the adhesives division says the company "planned our new facilities with sufficient space on the present site to expand to several times the original capacity."

PACKING COMPANY EXPANDING—Grocers Packing Company, division of Budget Pack, Inc., is doubling the size of its Modesto plant, located in the new Modesto Manufacturing District, with a new 30,000-sq. ft. warehouse to cost over $75,000.

IRON WORKS PLANS EXPANSION—The Talbot Iron Works, Modesto, has outgrown its facilities and has purchased eight acres of land near the Modesto Manufacturing District, and on the rails of the Modesto and Empire Traction Co., upon which it has under construction a new modern plant to serve the industrial and farm equipment field in this area.

PRINTING PLANT PLANS $1,500,000 EXPANSION—H. S. Crocker Co., Inc., 720 Mission St., San Francisco, has announced plans for a $1,500,000 expansion program involving the erection and equipping of a new printing and lithograph plant. Manufacturing division of the company is operated under the name of Crocker-Union. Building site


# $32,700 labor savings on 9 gas engines with Farval



IN a blast furnace power house, the gas engines driving generators were lubricated by hand. Each engine kept one man busy all the time filling and adjusting grease cups for 256 bearings. Nine engines required the full time of 27 oilers per 24-hour day, 365 days a year.

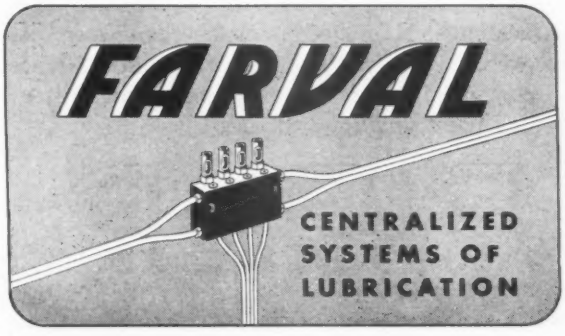
FARVAL—*Studies in Centralized Lubrication* No. 89

To reduce the cost of hand oiling, Farval Centralized Lubrication was installed — initially on one engine as a test. One Farval unit lubricated 240 bearings at 4-hour intervals. Another unit lubricated 16 eccentric bearings every 20 minutes. The first year's experience showed that one man with Farval could look after 2 to 3 engines, requiring only 4 oilers per turn for all 9 engines. Result—Farval was ordered for all 9 engines. At the then prevailing rates, the reduction in manpower alone indicated a saving of $32,700 the first year. The saving in labor paid for Farval in a few months.

Adequate lubrication eliminated all metal-to-metal contact at bearings. There is less drag on the engines. Bearing replacement is no longer a problem. Engines run cooler, operate smoothly and quietly. The men are enthusiastic about Farval.

Farval delivers oil or grease under pressure to a group of bearings from one central station, in exact quantities, at regular intervals. Farval is the Dualine System with the Positive Piston Displacement Valve. This valve has but two moving parts and is fully adjustable, with a Tell-tale indicator at each bearing to show the job is done. For a full description of Farval, write for Bulletin 25, The Farval Corporation, 3269 East 80th Street, Cleveland 4, Ohio.

*Affiliate of The Cleveland Worm & Gear Company, Industrial Worm Gearing. In Canada: Peacock Brothers Limited.*



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● Here's the rugged self-contained pipe threader that's a pleasure to work with. No extra dies to carry around or lose. One set does the trick for 1," 1¼," 1½" and 2" pipe —sets to size in 10 seconds! Workholder sets instantly—only one screw to tighten, no bushings. Hardened precision-cut chaser dies insure fast perfect threads on iron, steel, brass or copper pipe, or conduit. Every 65R factory tested. Ask your Supply House.

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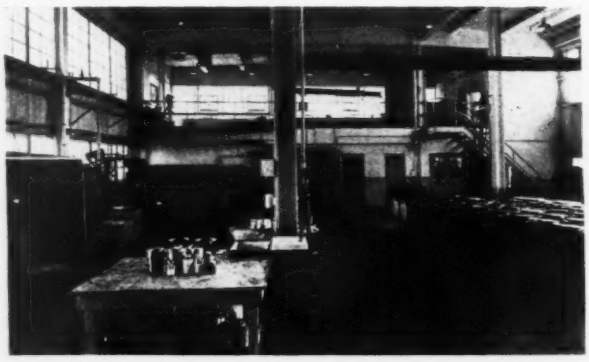
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL COMPANY • ELYRIA, OHIO


## THE WEST ON ITS WAY

consists of 11 acres on San Mateo Ave., San Bruno. The main plant will be constructed of reinforced concrete in one story containing 130,000 sq. ft. Printing, lithograph and bindery equipment valued at $2,250,000 will be moved from the present location on Harrison St., and will be augmented by new high-speed presses valued at $450,000.

STANDARD OIL PLANS $4,000,000 ADDITION—Standard Oil Co. of California will build a $4,000,000, 22-story addition to its San Francisco home office building next spring.



**• Interior view of part of the new Pacific Coast plant of American Anode, Inc., Los Angeles. The plant handles latex mixtures and compounds of many types, in natural and American-made rubbers and synthetic resins.**

AVIATION MAINTENANCE AWARDED ARMY CONTRACT—Aviation Maintenance Corp. has been awarded a $1,900,000 supplement to its Army Air Force overhaul contract, bringing the contract to $3,589,000. This covers overhaul maintenance work on four-engined Douglas C-54 aircraft used on the Air Transport Command's Atlantic and Pacific division routes. The company is overhauling 45 Army aircraft at its Van Nuys plant.

ROHR GETS BOEING CONTRACT—Rohr Aircraft Corp., San Diego, has received a substantial contract from Boeing Aircraft Co. to make parts and stampings. This will increase present employment of 1,400 persons to 2,000 within three months. Parts included in the order are largely for a bomber plane that is an advancement of the B-29.

ARMY DAM ABOVE FOLSOM PLANNED—The U. S. Corps of Engineers plan to ask Congress for funds to construct a 1,000,000-acre-foot dam above Folsom. Lt. Gen. Raymond A. Wheeler, chief of engineers, said he believes the engineers will have authority to go ahead with its construction under previous authorization Congress gave to build a 355,000-acre-foot dam at the site.

BAY AREA LAND AVAILABLE FOR INDUSTRY—Additional San Francisco Bay Area land has become available for immediate industrial development following the return of Kaiser Shipyard No. 2, Richmond, and No. 4, on Santa Fe Channel, to the Santa Fe Co. Approximately 544 acres containing warehouses, shop buildings, railway tracks, piers and open storage areas are now available.

CITRUS FRUIT RESEARCH LAB TO BE BUILT—The Department of Agriculture will build within the coming year a citrus fruit research laboratory in Pasadena. An important feature of the plant will be the space set aside for pilot-plant research. This space will be 40x48 ft., with monorail hoist so that process equipment can be moved about readily. There will be five laboratories for chemical research, 1,300 cu. ft. of freezer space, and same amount of cooler space, plus office space, a small library, shops and storage. It will be a one-story reinforced concrete building approximately 100x100 ft. in size. Work at the new lab will be closely coordinated with related studies at the larger Western Regional Research Laboratory at Albany.

CONSOLIDATED VULTEE DELIVERS L-13—Consolidated Vultee Aircraft Corp. has delivered the first 20 L-13's, the AAF's new jack-of-all-trades liaison plane. The L-13 assembly line is now turning out one of the planes every working day.

REPUBLIC SUPPLY OPENS NEW BAKERSFIELD PLANT—Republic Supply Co. of Calif., oil equipment supply firm, has opened its newly enlarged $85,000 warehouse and offices in Bakersfield. The building is of reinforced concrete construction, two stories in the office section. Warehousing features include the improved low type stock bins, and a 10-ton overhead electric traveling crane. Space available in the warehouse is 23,000 sq. ft. Don F. Way is manager of over-all operations of Republic in the Bakersfield area.

PRODUCTION OF SHIRTS BEGINS—The Shirt Corp. of Calif. has begun production on its line of men's shirts at 529 Market St., San Diego. Officers of the firm are Harry Margolin, pres.; Sheldon Margolin, vice-pres.; Jack Margolin, treas.; and Charles Marcules, sec.

CALJAX EXPANDS—Caljax, Inc., men's and women's leather sportswear manufacturers at 15119 Oxnard St., Van Nuys, is building a 10,000-sq. ft. building at 14732 Oxnard, for expanding production.

MARSHALL TOOL & SUPPLY CO. TO MOVE IN DECEMBER—The Marshall Tool & Supply Co., 1224 Santa Fe Ave., Los Angeles, are scheduled to move into their new 10,000 sq. ft. building in December. The building is devoted to modern show rooms, warehouse space and offices.

AIRCO ENLARGES OXYGEN PLANT—The Air Reduction Sales Co. is expanding its oxygen plant at Sacramento in order to supply the increasing oxygen demands of California industry. H. W. Saunders is Airco's Emeryville district manager.

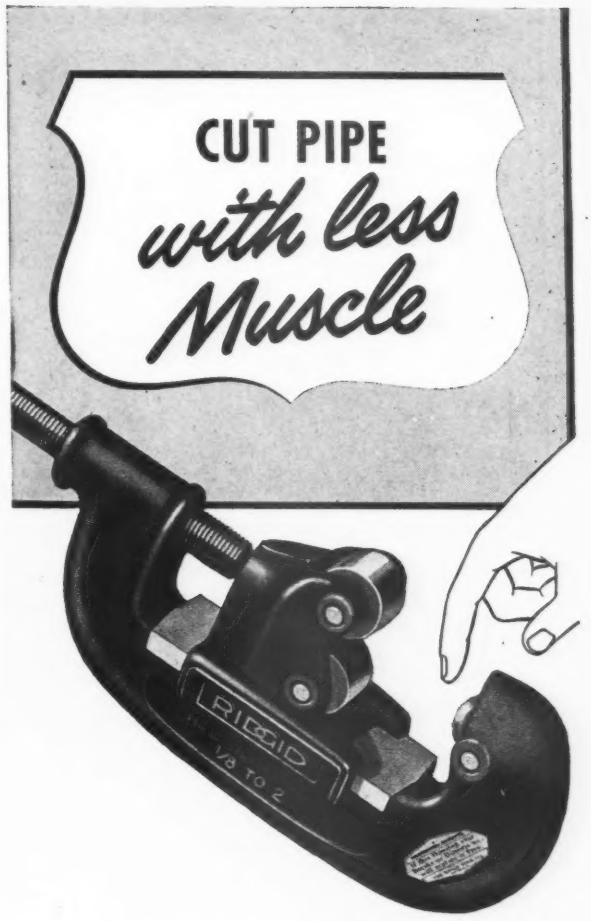
OIL COMPANIES TO MERGE—Pacific Western Oil Corp. and Mission Corp. are merging into the Sunray Oil Corp. The merger is scheduled to be completed in December. Principal offices will be maintained in Tulsa, Okla. The consolidation will make Sunray a corporation with assets of more than $210,000,000 and control of crude oil production of approximately 100,000 barrels of oil daily. These will come from producing properties in Okla., Kans., Ark., La., Miss., N. Mex., Colo., Wyo., Calif., Ill., Ind., Texas and Mich.

L. A. STARTS PRODUCTION ON ASPHALT PLANT—The city of Los Angeles' new $325,000 asphalt plant began production recently of materials used in resurfacing and repairing streets. The plant can produce 1,000 tons daily at an estimated annual saving to the city of $80,000.

U. P. BUYS DIESELS—Bringing to a total of 245 purchased since the end of the war, Union Pacific have placed an order for five additional 2,000 horsepower diesel locomotives, for use in helper service in mountainous areas. Delivery is expected before the end of the year.

SAN JOSE EXPANSIONS—**Tersini Fruit Industries** are constructing a $200,000 plant north of San Jose city limits to convert fruit peelings, pits and cores into sugar and fruit syrups. . . . **San Jose Paper Box Co.** is producing two-piece paper boxes at 260 N. First. . . . **American Burial Casket Company,** an Oakland concern, has purchased one acre on Kifer Road for construction of a plant. . . . **McQueen Paint Factory** is constructing a plant on the Los Gatos-Santa Clara Road for the production of a line of general house paints.

L. A. COUNTY EXPANSIONS—During August, 20 new factories were established in Los Angeles County with a total investment of $1,073,000. Thirty-eight existing plants were expanded calling for an additional investment of $4,449,000. Following are some of the announced expansions: **Pacific Bedding Co.,** 710 E. 62nd St., has leased 50,000 sq. ft. of space at 725 E. 59th St., and will move there before the end of the year. Company makes mattresses, boxsprings, bed divans, etc. . . . **Cal-Ray Bakeries,** 233 No. Howard St., Glendale, is constructing a 40,000 sq. ft. addition which will enable the firm to expand present production of cookies and add other kinds. . . . **Nassour Studios, Inc.,** 5746 Sunset Blvd., is adding in the neighborhood of 60,000 sq. ft. to increase production of dramatic and educational motion pictures. . . . **Moore Business Forms, Inc.,** 620 E. Slauson Avenue, has completed a 57,000 sq. ft. addition for expanded manufacture of various types of business forms. . . . **Simpson's Jumbo Steel Products Co.,** Vernon and Foothill Blvd., Azusa, has a $50,000 expansion program under way which includes additions to manufacturing buildings, covering steel storage yard and crane runway. Considerable new equipment will be installed. Company makes farm and road machinery such as scrapers, land-levelers, cultivators, harrows, plows. . . . **Certified Chrome Furniture Co., Inc.,** 351 S. Avenue 17, has moved into its new building at this address where 44,000 sq. ft. are utilized for manufacture of chrome dinette sets. . . . **Adamo Co.,** 1140 E. 11th St., has recently completed a building program which affords 24,000 sq. ft. for its manufacturing activities. Along with manufacture of carpeting, upholstery material, dyeing and bleaching of piece goods, company is making butchers' cutlery. . . . **Sunset-McKee Co.,** 900 Allen Avenue, Glendale, is completing an addition of 20,000 sq. ft. which will be used for warehouse purposes. Company makes salesbooks of various types. . . . **Calmar Co.,** 6800 McKinley Ave., has moved to this address where 14,000 sq. ft. of floor area are available for manufacture of functional closures, plastic sprayers, and many new plastic items. . . . **Southern California Glass Co.,** 2445 Santa Fe Ave., has acquired adjoining property which adds about 12,000 sq. ft. to floor area for production of mirrors, shower doors, bathtub enclosures, furniture tops, etc. . . . **Custom Mfg. Co.,** 2803 S. Main St., is utilizing 8,500 sq. ft. at this new location for manufacture of foamed rubber padding and cushioning, hospital and surgical supplies. . . . **Farrar Industrial Products Co.,** 6715 McKinley Ave., has added over 8,000 sq. ft. to production facilities for soaps, laundry and textile supplies. . . . **Har-**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2 Ross Tray Oven in Drug Plant.

3 Ross Oven curing material impregnated with synthetic resin.

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Somewhere in the manufacture of every product, water or solvent must be removed from a solid. This is the process of drying and ROSS engineers have spent a lifetime perfecting it. In practically all industries, ROSS Industrial Dryers are a major part of the manufacturing process. They are of Batch, Tray and Continuous types; they utilize all the various sources of heat—steam, hot water, gas, oil, electricity, infra-red; they apply heat by radiation, conduction, convection, either alone or in combination.

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## THE WEST ON ITS WAY

man Pump Co., 1575 Compton Ave., is erecting a 7,500 sq. ft. building at 1110 E. 14th St., to which location it will move about November 15. . . . **Ellis Paint Co.**, 805 W. Anaheim St., Long Beach, will shortly begin construction of a building at 670 W. Anaheim St. Structure will be part one and part two-story and contain about 6,500 sq. ft. for increased production of industrial paint. . . . **Le Vant Brush Co.**, offices at 212 W. Olympic Blvd., has erected a 6,500 sq. ft. plant at 15004 Oxnard St., Van Nuys. Company makes hair, nail, and tooth brushes. . . . **Sullivan-Waldron Products Co.**, 708 Hawthorne St., Glendale, has moved its headquarters here from Seattle, where it will continue to do contract manufacturing of housewares items. M. F. Sullivan is president and J. F. Waldron, vice-president. . . . **Kruse Metals Mfg. Co.**, 1349 Channing St., has moved to this location where a building of 9,600 sq. ft. has been erected. Company makes stainless steel sinks and drainboards, drv cleaning, and dairy equipment. . . . **Aden Furniture Mfg. Corp.**, 2551 E. 25th St., has acquired 9,000 sq. ft. of floor area at this address where bedroom furniture is made.

LUCKENBACH TO PURCHASE SHIPS—Despite present unfavorable outlook for intercoastal steamship operations, Luckenbach Line is going ahead with an extensive ship purchasing plan. It will acquire 16 ships composed of 11 C-3 type and five C-2 type standard design freighters. The cost of this fleet is expected to run up to $32,000,000. The freighter F. J. Luckenbach, a prewar ship that moved in and out of the Golden Gate in Luckenbach Line's intercoastal service, will be completely stripped and converted into a barge for special service in the bauxite trade, it was announced by the Alcoa Steamship Company. The ship will be used to transfer bauxite ore at Trinidad from shuttle vessels arriving from Surinam (Netherlands West Indies) to deeper draught ships bound for Mobile. The F. J. Luckenbach has been purchased by Alcoa from the U. S. Maritime Commission.

AIR CARGO CARRIERS MERGE—The country's two largest "noncertified" air cargo carriers, Slick Airways, Inc., and California Eastern Airways, have consolidated. The companies anticipate that the economies of operation through pooling of sales and operating effort will permit the merged company to make money during the first month of operation. Slick's management has been in favor of low rates to attract volume.

$2,500 GRANT FOR GLUTAMIC ACID STUDIES — The second $2,500 grant to study glutamic acid formation in sugar beets has been accepted by the University of California College of Agriculture from the International Minerals and Chemical Company. Dr. Albert Ulrich, assistant plant physiologist, will direct the University's part of the work.

BERKELEY FIRM COMPLETES MOVING JOB—The Ray Foster Trucking Co., Berkeley, has completed the job of transporting a large Pershing County, Nevada, for Beckwith & Peterson, who are reassembling the machinery and building camp in the Spring Valley district. floating dredge equipment and wrecked buildings from Oroville to SHELL BUYS TANK CARS—American Car & Foundry Co. reports receipt of an order for 36 all-aluminum tank cars from Shell Chemical Corporation of San Francisco. The cars will be used to transport synthetic glycerine.

## COLORADO

MOUNTAIN STATES T & T PLAN MULTI-MILLION EXPANSION—Mountain States Telephone & Telegraph Co. are planning a five-year construction program involving expenditure of $180,000,000. Since the war ended MST&T reports 208,000 new phone connections, 30,000 miles of new toll circuits have been strung, and 5,700 employees have been added to the payroll.

RICH GOLD ORE FOUND—Spectacularly rich ore, with values running as high as $5,076 per ton, has been shipped from the No. 1 shaft of the Portland mine, near Cripple Creek, property of the United Gold Mines Co.

STOVE PLANT SEEKS SPACE—Acquisition of 15,000 ft. of factory space in Denver for a branch plant to employ 100 persons in making stoves, has been authorized by Century Vitreous Enamel Co., Chicago.

OLIVER MANUFACTURING COMPANY STARTS CONSTRUCTION—Oliver Manufacturing Company of St. Louis has begun construction of its manufacturing plant at Rocky Ford. Plans call for three new buildings. The company makes seed and grain cleaning equipment.

SHOVEL COMPANY EXPANDS—Quick-Way Shovel is expanding operations at its Denver factory. Building calls for expenditure of $75,000.

FORT COLLINS PLANT UNDER CONSTRUCTION—Heath Engineering Co. is building a plant to house fabricating and research facilities at Fort Collins. Company makes the Woerner tubular profile cutter and also a patented tractor hitch and attachments.

## IDAHO

BOISE COMPANY TO MAKE STEEL SWIMMING POOLS—A new industry for Boise is the Intermountain Steel and Fabrication Co., 1025 Broadway, which will specialize in building steel swimming pools. President Oren Thomas, a welder, explains that steel pools are quite common in the east and that they are more economical to construct, and less expensive to maintain because they require only a coat of paint. The company will also handle portable welding jobs, construction of metal-frame trailers, truck beds and conveyors.

EAGLE-PICHER ACQUIRES MINING COMPANY — Eagle-Picher Lead Co., one of the largest mining operators in the U. S., has acquired a controlling interest in Nabob Consolidated Mining Co. in the Pine Creek district in the Coeur D'Alenes and will continue operations on a large scale. The company has agreed to continue the big tunnel of the Nabob past the Sidney and Denver veins and run all necessary laterals, crosscuts, raises and shafts in developing the property. Entrance of Eagle-Picher into the Coeur d'Alenes marks one of the most important developments in many years and will bring a big impetus to the district.

CONTINENTAL MINING COMPANY GETS FIRST "MOBILE-MILL"—Continental Mining Co., an organization composed of Coeur d'Alene district mining men, operating near the Canadian line in Boundary County, reports that the company now has in operation the first "mobilemill" concentrating plant installed in the U. S. It is a heavy media flotation plant of 500 tons capacity manufactured by the Western Knapp Manufacturing Co., and is portable.

UNDERGROUND MILL TO BE BUILT—Highland-Surprise Consolidated Mining Co. is planning to build an underground sink-float process mill to handle low grade lead and zinc ores passed up by earlier mining operations. Experiments have shown that the plant can operate profitably on ores containing 7 to 8 per cent lead and zinc. The mill will be built on the 1,000-ft. level of the mine on Pine Creek, in the Kellogg area. It will have a 300-ton daily capacity.

CELLULOSE RESEARCH PLANNED—Professor Elwood V. White of the University of Idaho school of forestry says the school is making a study of the possible utilization of cellulose in Pacific Northwest timber. Dr. White, outstanding authority on the subject, said research on the carbohydrate components of wood is to be carried out this year by John A. Rowe, Jr., of Houston, Texas, who has been awarded the annual research fellowship granted by C. L. Billings, general manager of Potlatch Forests, Inc.

## MONTANA

GREAT FALLS-BUTTE RUN DIESELIZED — The Great Northern railroad's line between Great Falls and Butte has been completely dieselized, and the line between Great Falls and Havre is very largely so. Two new 3,000-hp. diesel freight locomotives have been added to the Great Falls-Havre line; and another 3,000-hp. freight diesel, and four single-unit, 1,500-hp. passenger diesels are being added on the Great Falls-Butte line.

## NEVADA

FLOAT-BUILDING FIRM LOCATES IN CARSON — George E. Kelly, who has been building floats for parades and pageants since 1915, has established his headquarters and shops in Carson. He has taken over the old car shops of the Virginia & Truckee railroad. Mr. Kelly expects that before next summer's celebrations in the state, he will be employing a crew of 30 persons.

## NEW MEXICO

FIBER PROCESSING PLANT PLANNED—Construction is starting on a plant near Orogrande for the processing of yucca fiber by Southwest Fibers, Inc. Already the company is said to have $500,000 worth of orders on hand.

## OREGON

SAWMILLS UNDER CONSTRUCTION—The construction of two sawmills, one of which has an estimated capacity of over 75,000 feet of lumber daily, are now underway in the North Santiam canyon. The larger one will be owned by a partnership of Armandus Frank of the Frank Lumber Co., Mill City, and Ted Freres, Stayton. The smaller one, with capacity of 20,000 ft., will be an addition to the Oregon Pulp & Paper Co.

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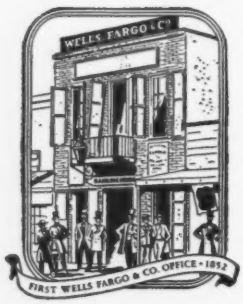


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## THE WEST ON ITS WAY

FREIGHTLINER MOVES INTO NEW QUARTERS — Freightliner Corp. of Oregon, makers of trucks and trailers, have moved into their new building at 1925 N. W. Quimby St., Portland. Total cost of the plant, which includes 32,600 sq. ft. of property, the building and installations, is about $100,000.

WESTERN BATTERY BUYS TIMBER—The Western Battery Separator Co. of Roseburg has purchased more than 250,000,000 ft. of timber on Fall Creek in the Umpqua forest.

BOX FACTORY REMAINS CLOSED—A poor orange crop in California will keep the box factory of the Spruce Veneer Products Co., North Bend, closed. Company, which normally employed between 50 and 60 workers, made only orange boxes.

TREE FARM GETS SUBSTANTIAL ADDITION — Western Pine Association has announced the addition of more than 7,000 acres in Oregon to the tree farm total of its member firms. The largest recent addition was that of the Biles-Coleman Lumber Co., who placed 7,058 acres in the managed forest system. The entire Association region now has 115 tree farms on 2,490,206 acres.

FACTORY TO BE BUILT FOR TRAILER MANUFACTURERS—A. E. Stebinger plans to start construction of a factory for Transport Bodies & Equipment Co., manufacturers of logging trailers, semi-trailers, and truck and trailer bodies, on N. W. St. Helens, Portland. The project will cost around $75,000 and will include construction of a 70x140-ft. factory and a 30x90-ft. office housed in one building. Outside covered storage space with asphalt floors will be built covering about 20,000 sq. ft.

CALIFORNIA BAG & METAL TO BUILD IN PORTLAND—The California Bag & Metal Co., 1515 S. W. Front, Portland, have announced plans for the immediate construction of a warehouse and office at 2490 N. W. Nicolai as the first part of their $500,000 building program. The company will vacate their present Front St. site when the program is completed. The company recently completed the laying of 6,000 ft. of railroad track, making four spur lines on the property.

FILBERT PICKER DEVELOPED—A filbert-picking machine which has proved itself in tests has been developed after three years of experimenting by Norman Schatz, Earl Smith and Carl Marnach, all of Newberg. Tests indicate the machine may be able to harvest filberts at costs as low as $2 per acre. Patents are now pending.

ALCOHOL-FROM-SAWDUST PLANT CLOSED—Operations have ceased at the alcohol-from-sawdust plant of the Willamette Valley Wood Chemical Co., Springfield, pending negotiations to determine whether RFC will advance further funds to correct certain mechanical difficulties; whether RFC will agree to terms which will make it possible for the operating company to make improvements; and whether the plant will be declared surplus and auctioned off.

GENERATOR CONTROL IN OPERATION—The first of 14 automatic gas generator controls, designed to double the capacity of the Portland Gas & Coke Co.'s gas production has been successfully tested in operation. The $4,750,000 expansion and conversion program now underway will eliminate the need for using large quantities of high-priced diesel oil as an expedient to boost gas production capacity. A saving of $1,500,000 annually is expected from the new equipment.

SHIPS STORAGE FUND ALLOCATED—Something over $3,000,000 has been set aside for construction of a Maritime Commission ship storage basin in Youngs Bay at Astoria, E. W. Gorman, assistant director of the maritime reserve fleet, has announced. The order to establish the basin depends on the peactime activity of the merchant marine, however.

ICE STORAGE PLANT FOR ONTARIO—The Terminal Ice & Cold Storage Co., Portland, has purchased a seven-acre site in Ontario and is planning to build at once a 6,000-ton capacity ice storage plant. It will include an icing platform for bunker icing up to 40 refrigerated cars at a time. The company plans to add an ice manufacturing plant later, but for the first year or so the ice will be shipped to Ontario from the company's plant in Nampa, Idaho.

KAISER COMPANY TO LEAVE SWAN ISLAND—Kaiser Co., Inc., has withdrawn from the ship repair business at Swan Island, Portland, and has been replaced by Consolidated Builders, Inc., Kaiser-managed shipbreaking firm. Kaiser interests have purchased 17 LST vessels to be scrapped at the site on the lower end of the wartime shipyard, outfitting dock, and drydock area, for which Kaiser is dickering with WAA.

COCA-COLA BUILDS AT EUGENE—Coca-Cola Bottling Co. has started a $200,000 plant at Eugene. Present construction will be confined to the first unit, costing $80,000 and including general offices, distribution plant, advertising plant, stock room, bottling plant, and wash racks.

NEW PLANT OPENED—Van Waters & Rogers, Inc., distributors of raw materials, have moved into their new quarters at 3950 N. W. Yeon Ave., Portland, a structure 174x250 ft. The new building provides 38,550 sq. ft. of warehouse floorage with a clearance of up to 21 ft.,

under cover, with an additional 50,000 sq. ft. of space in an outdoor extension. The building also contains the company offices. The spur track makes it possible for 10 freight cars to be lined up at once for unloading which is done by lift truck.

CHARCOAL BRIQUET PLANT PLANNED—Phillipson Retort Manufacturing Co. plans to build at Eugene a plant for the manufacture of charcoal briquets and other by-products from sawmill wood waste. The first unit, to cost $40,000, will be started immediately, and if successful, will be expanded to a $500,000 factory. The company was formed by E. E. Siemens, Portland, H. S. Phillipson, designer of the plants, and 12 lumbermen with sawmill and logging operations in the area. Their mills will furnish the raw material.

CONTINENTAL LETS CONTRACT FOR NEW PLANT—L. H. Hoffman, 715 S.W. Columbia St., Portland, has been retained to build the new plant for Continental Can Co. at N. Burgard St., Portland. The cost is in excess of $1,000,000. The plant will contain 240,000 sq. ft. of floor space under one roof.

WAREHOUSE FIRM EXPANDING—The American Steel Warehouse Co., Portland, is building a 50x200-ft. addition to their building at 425 N. E. Ninth Ave.

FOWLER MOVES INTO NEW BUILDING—The Fowler Manufacturing Co.'s new $100,000 building for increased manufacture of electric water heaters, located across the street from their main plant in Portland, is now in full use. It adds 24,000 sq. ft. of floor space to the more than 60,000 already in use.

## UTAH

KAISER CO. LEASES LAND—Kaiser Co., Inc., has been awarded a 20-year lease on 2,520 acres of government coal land in Emery County, 30 miles southeast of Price in eastern Utah. Kaiser was the only bidder for this lease, and offered the minimum of $1 an acre. The lease can be extended indefinitely if the company complies with terms of contract.

SURPLUS PLANT BID TOO LOW—WAA is calling for new bids on the war-surplus kalunite plant in Salt Lake City on which J. R. Simplot of Caldwell, Idaho, submitted the high offer of $500,000 at an earlier bid opening. The bid was rejected as too far below the appraised value of the plant, and bids were reopened on November 17.

CHICAGO BRIDGE & IRON TO BUILD—Chicago Bridge & Iron Co. plan to build a factory on their newly-purchased 43-acre site in Salt Lake City. The firm plans to fabricate tanks and structural shapes from Geneva steel.

WAA MAY REJECT STEEL FACILITY BIDS—Zone headquarters for WAA have recommended that bids on the purchase of both the surplus blast furnace at Ironton and 500 beehive coke ovens in Carbon Co., be rejected as too low, though no action has yet come from Washington. High bidder was Portsmouth Steel Corp., New Boston, Ohio, who bid $250,000 for the furnace, and $50,000 for the coke ovens.

## WASHINGTON

MULTI-MILLION SAWMILL PLANNED—Harbor Plywood Corp. has announced plans for the immediate construction of a sawmill and shingle mill, plywood plant and door plant near Yacolt in Clark County. The program is in connection with the corporation's recent

It's easy to drill metal, wood or plastics with a MallDrill. This portable electric tool has power to speed the bit through the toughest materials . . . stamina to withstand continuous use . . . and adaptability to fit every kind of drilling job. Available in capacities ranging from ¼" to ⅞" in steel—correspondingly larger in wood—for either 110-volt AC-DC or 220-volt AC-DC.

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## THE WEST ON ITS WAY

acquisition of 735,000,000 ft. of timber in the Lewis River area. Though the amount of the proposed investment was not announced, industry officials in Portland have estimated it at between $4- and $5,000,000.

LONG-BELL LUMBER COMPANY BUYS TIMBER—The Long-Bell Lumber Co., Longview, has purchased 3,100 acres of Douglas fir timber lands in Lane and Douglas counties of Oregon, the second recent purchase by the company in the Eugene area, and part of their expansion program.

OLYMPIC TIMBER SOLD — The Peninsula Plywood Corp., Port Angeles, have purchased a total of 9,000,000 bd. ft. of timber in the Olympic national forest with high bids amounting to $131,350.

SHINGLE MILL PRODUCING — Schafer Bros. Lumber & Shingle Co.'s new two-machine shingle mill at Aberdeen has begun operations with a rated output of 60 squares per shift.


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HOLSUM BAKERY TO BUILD AT EVERETT—Holsum Bakery has announced plans to build a complete baking plant in Everett on the corner of 38th St. and Broadway.

WENATCHEE TO GET $1,000,000 PLANT—Plans for the construction of a $1,000,000 processing plant in Wenatchee have been announced by the Welch Grape Juice Co., Westfield, N. Y. Construction of wells, storage sheds and other facilities were to get underway in the fall, though no date has been given for beginning of plant construction. The plant will be built on a site near Olds Station.

WESTINGHOUSE GETS CONTRACT—Contracts for construction of three generating units for the Grand Coulee Dam power plant for $3,290,000 have been awarded to Westinghouse Electric Co., and for construction of three turbines for $2,189,680 for the plant to the Newport News Ship Building and Drydock Co., Va. Westinghouse and General Electric also were awarded a $2,474,548 contract for construction of motors for the Grand Coulee pumping plant.

FRUIT PLANT FOR YAKIMA—The Standard Fruit Processing Co., Chicago, has announced plans to build a combination fruit processing plant and warehouses in the Yakima district. Plans call for 100,000 sq. ft. of floor space in a building of concrete and tile construction. Processing equipment will be moved from Chicago. The firm hopes to have the plant completed in time for the 1948 season. Operations will furnish employment for 100 to 150 people the year-round.

TEA GARDEN OPENS PLANT — The Tea Garden Products Co. of the Pacific Coast has opened its new plant in Grandview. The first yield of Yakima Valley Concord grapes, planted two years ago, were pressed in a new grape juice production system developed expressly for this plant. W. C. Ventsam, formerly in charge of the Seattle plant, is manager.

LIMESTONE PLANT OPENS—J. A. Jack and Sons have completed a new crushing plant for the production of agricultural limestone at 7309 E. Marginal Way, Seattle. The company, which formerly operated in Arlington, produces "Limestone Flour," a soil sweetener which is used throughout the Pacific Northwest.

$100,000 ICE CREAM PLANT PLANNED—Bids have been asked for construction of a $100,000 plant for the Arctic Ice Cream Co., Seattle. Plant will be 120x56 ft., one story with partial basement. The plant will produce a full line of ice cream products.

UNIVERSITY MAY GET COAL RESEARCH UNIT—Sen. Warren G. Magnuson says the budget bureau will consider a $100,000 appropriation in fiscal 1949 for the Northwest experiment station at the University of Washington, a research center on treatment and use of coal in the Pacific Northwest.

HANFORD GETS BASIN EQUIPMENT—Reclamation Bureau equipment and building materials valued at close to $1,000,000 are being transferred to the Atomic Energy Commission for use at the Hanford project, because of curtailed appropriations for the Columbia Basin projects.

BOEING WORKS ON GUIDED MISSILE—William M. Allen, president of Boeing Aircraft Co., Seattle, has said that his company is at work on a guided missile to provide aerial protection to cities. For security reasons, no further description is available.

TOOL COMPANY MOVES—Northwestern Tool & Supply Co., Seattle, has moved to new quarters at 2706 Second Ave. The company formerly operated at 1743 First Ave S. Company president is John E. Strechan, Jr.

CARBORUNDUM TO GET BONNEVILLE POWER — Bonneville Power Administration has contracted to supply Carborundum Co. with a 20-year supply of electric power for the operation of their $2,000,000 plant, now being built at Vancouver, Wash. The company will get 10,000 kw. from Bonneville and Grand Coulee to start no later than April 1, 1949.

BEMIS BAG AWARDS CONTRACT—Bemis Brothers Bag Co. has awarded the contract for the construction of their Vancouver, Wash., plant to the Ross B. Hammond Co., Portland, Ore. Construction will begin at once. R. D. McAusland is vice-pres. and Pacific Coast general manager for the firm. The plant will be used to make multi-wall paper shipping sacks.

PORT OF TACOMA PLANS EXPANSION—The Port of Tacoma expansion program for 1948 has been set up to improve facilities, extend and add to the attractiveness of industrial sites. $15,000 has been set aside for land condemnation, $60,000 for paving and installation of water mains in the quadrangle; and $85,000 for dredging Wapato waterway. Almost a million cu. ft. of additional cold storage space will be provided. Port pier No. 1 is to be rebuilt and covered with a transit shed to cost $250,000.

SAWMILL SOLD—The Olympia Oil and Wood Products sawmill, Olympia, has been sold to the Buchanan Lumber Co. of Tacoma for an undisclosed sum. O. R. Rockway is president of the Olympia firm.

PASCO HERALD SOLD—The Pasco Herald has been sold by owner Bill Wilmot to the Scott Publishing Co., a corporation formed by three World War II veterans. The new owners are Hugh A. Scott, Seattle, who will head the staff, and two Seattle businessmen, Robert F. Philips and Glenn C. Lee.

PERMANENTE ADDS ALUMINUM REDUCTION PLANT—A new aluminum reduction plant which adds an estimated 3,250,000 lb. of aluminum pig per month to the production potential of the Permanente Metals Corp., has been opened at Tacoma. The plant was purchased from the Defense Plant Corp. for $3,000,000 last December, and Permanente has spent an additional $1,000,000 in preparing it for operation. The two pot-line plant had been ready for operation since the completion of remodeling last April, but was opened only on October 31 because power was not available from a new generator at Grand Coulee Dam until then. The Tacoma plant will supplement Permanente's aluminum pig production at the Mead plant, near Spokane.

PORT ANGELES RAIL LINE MAY BE EXTENDED—Grays Harbor interests are reopening studies of proposals to build a railway from the western terminus of the Port Angeles Western railway at Forks to Moclips. A 25-mile extension is possible if sufficient timber is released from the Olympic National Park by the next session, says Harry G. LeGear, vice-pres. and general manager of the railroad.

CENTENNIAL TO BUILD AT SPOKANE — Centennial Flouring Mills Co. will establish a new cereal packing plant at Spokane, and construction is underway on a $60,000, all-concrete warehouse directly east of their mill on East Trent. The cereal packing plant will be located in the four-story structure east of the company s main building, with the warehouse adjacent. All grocery store items sold by Centennial will be packaged in the Spokane plant.

SPERRY BUYS TACOMA SITE—Sperry Division of General Mills, Inc., has leased the Tacoma waterfront site formerly occupied by the Centennial Flouring Mills plant, which was destroyed by fire last January, and has purchased Centennial's dock, two garage buildings and a partly-completed concrete building. This property adjoins Sperry's plant, and was acquired to make room for expansions.

SHELL OIL TO DRILL WELL—Shell Oil Co., Inc., has acquired acreage in the Black Diamond area, about 10 miles north of Enumclaw, where they will start drilling operations, their first in the Pacific Northwest.

FROM FLYING FORT TO FLYING TRAPEZE—The $21,000,000 war plant at Renton, where Boeing Aircraft Co. turned out 1,119 Superfortresses, has become winter quarters for Sparks Circus.

## WYOMING

SOCONY-VACUUM BEGINS CONSTRUCTION — Socony-Vacuum has started construction on its $6,000,000 catalytic cracking plant at their refinery east of Casper. Work will hit its peak in 1948, when it is expected that some 500 men will be employed. Capacity of the new unit will be 7,500 barrels of crude oil a day.

SOFT WATER FIRM SOLD—The Culligan Soft Water Service Co. of Cheyenne has been sold by Boy Payton and Jim Zachman to C. C. Miller of Billings, Mont.

PHOSPHATE ROCK DEVELOPMENT GETS UNDERWAY—State geologist Dr. H. D. Thomas has announced that the first commercial development of phosphate rock in Wyoming is now underway near Sage. The mine is operated by the San Francisco Chemical Co., and is producing raw phosphate rock for use as mineral fertilizer for acid soils. A second development is starting 16 miles north of Kemmerer.

BENTONITE PLANT NEARS COMPLETION—The new $1,000,000 bentonite plant of the Baroid Sales Co., subsidiary of National Lead Co., is nearing completion in the northeastern corner of the state, 18 miles west of Belle Fourche, S. D. Capacity of the plant is 750 tons of bentonite per day. In addition, two immense tanks are being built, to furnish storage space for 3,900 tons of processed material.

BLACK HILLS PLANT COMPLETED—Black Hills Bentonite's new $250,000 plant at Moorcroft is completed, and has been shipping processed material since July. It has a capacity of 130 tons of processed material daily.

POWER PLANT SLATED—A large electric power plant is under construction at Osage and scheduled for completion in mid-1948. The plant will be operated by the Black Hills Power & Light Co. It will develop 30,000 kw. and will be a steam turbine type.


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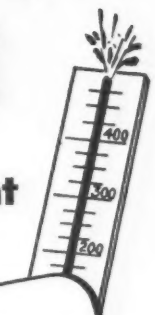


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# WESTERN TRADE WINDS

## NEWS ABOUT THOSE WHO DISTRIBUTE AND SELL INDUSTRIAL EQUIPMENT AND MATERIALS

The Rapids-Standard Co., Inc., has appointed **Plin Mears** as sales manager in the Western region, with offices in San Francisco. He was formerly manager of the Turret Truck Division of Salsbury Motors, Inc., of Pomona. He has established a temporary office in Los Angeles, but will locate in San Francisco early in 1948. At present he is chairman of the board of the Material Handling Association of Southern California, which he helped to organize.

**Kenneth C. White** has been appointed general sales manager of the Pacific Coast Division, Glass Container Division, Owens-Illinois Co.

The Republic Supply Co. of California have named **Andy A. Fomilyant** to its technical engineering staff. Mr. Fomilyant comes to Republic from a seven-year association with the Nordstrom Valve Division, Rockwell Manufacturing Company.

**Eugene L. Pirog** is new staff engineer of Production Management Engineering Associates, Inc., with headquarters in San Francisco. Mr. Pirog was formerly chief industrial engineer at Langendorf United Bakeries, San Francisco.

Benchmaster Manufacturing Company of Los Angeles announce the appointment of **J. K. Sutherland** as sales manager.

Ward Leonard Electric Co. have named **W. R. L'Hommedieu**, 722 E. Washington, Los Angeles 21, as sales representative in that area.

**Thomas Darlington** and **W. T. Joplin** have formed a business partnership in Phoenix, Ariz., specializing in industrial properties and business opportunities. Mr. Joplin is former head of Butane Corporation and Mr. Darlington former manager of AiResearch Manufacturing Co.

The paint division of Pittsburgh Plate Glass Co. has named **R. Stanton Richter** as sales representative in the West Coast area, specializing in automobile production finishes. He is succeeded as manager of industrial sales, Pacific Coast, by **W. Ray Culp.** Mr. Richter has been with Pittsburgh Plate for 2 years, serving at Denver, New York and San Francisco prior to his appointment as manager of industrial sales in 1940. Mr. Culp has been with the company since 1935. His headquarters will be 7412 Maie Ave., Los Angeles.

R. Stanton Richter

**• Members of the speakers' panel of the Material Handling Association of Southern California who conducted the forum on "Modern Material Handling Trends" at First Annual Scientific Packaging and Materials Handling Exposition held in Los Angeles. From left to right: A. Mazzola, Angelus Engineering Co.; V. J. Pence, Mailler-Searles, Inc.; Glenn A. Harshbarger, Frank E. Witte Co.; Otto Holler, Faultless Caster Corp.; and Robert H. Braun, of Robert H. Braun Co. The forum took up the afternoon session held October 30.**

**Griffin Chemical Co.** of San Francisco has been selected by **Quaker Oats Co.** of Chicago as agents for the chemical department in northern California and Western distributor for Quaker Oats furans. Furfural, furfuryl alcohol and other furans derived from oat hulls, corn cobs and other agricultural waste products, are among the lines to be handled by the Griffin organization.

**California Tramrail Company** announce a change of address and the opening of larger offices at 40 First Street, San Francisco 5.

**Elmer Harris,** traffic representative for Pacific Northern Airlines, has been upped to district traffic manager of the firm, in Anchorage, Alaska.

**Thomas C. Blanchard** has been promoted to district traffic and sales manager for United Air Lines, at Las Vegas, Nevada. Blanchard joined United's traffic and sales department at Portland, Ore., in 1940. He served with the Army Air Forces from 1942 to 1946.

Columbia Steel Co. has made three new appointments to its sales staff on the West Coast. **Andrew Carrigan** becomes manager of sales for the central division with offices in the Russ Building, San Francisco; **B. W. Mitchell** takes over as manager of sales for the Oregon division, whose offices are at 2345 Northwest Nicolai St., Portland; and new manager of sales for the Washington division is **Ralph Winship,** whose offices are at 1331 Third Ave. Building, Seattle.

**Edmond A. Gress** of Tacoma, formerly sales manager for a manufacturer of heating equipment, has purchased the Stoker Engineering Co., 911 Pacific Avenue, Tacoma, Wash.

**The Puget Sound Sheet Metal Works** has been chosen as sales agents and applicators in the Seattle district for the H. H. Robertson Company of Pittsburgh, Pa. This Seattle firm has also been named a distributor for products of J. Royden Estey & Sons of Los Angeles.

New general traffic manager for The Flying Tigers Line, Burbank, Calif., is **George T. Cussen.**

**Roger Sherman** will represent Pitney-Bowes, Inc., as manager of its Seattle, Wash., branch sales and service office to succeed **I. W. Kessler,** who becomes resident sales representative in San Diego for company's Los Angeles branch.

New name and corporate ownership for **The Rucker Company,** Oakland, Calif., were announced recently by **Clark E. Rucker,** owner. Formerly Rucker Vaughn Company, the firm will operate henceforth as The Rucker Company. Mr. Rucker bought the interest of **C. S. Vaughn** and is now sole owner. The firm was recently appointed representative for the Hanna Engineering Company of Chicago. **George H. Wilson,** formerly of Modernair Corporation, is sales manager.

**J. O. Pfeifer** has been appointed division manager for Southern California of the marketing department of General Petroleum Corporation, succeeding **L. M. Butterworth** who has been transferred to the home office staff in Los Angeles.

Edward D. Maltby Co., distributors, announce the opening of a new office at 1421 B Street, San Diego, under the management of **E. H. Beste.**

# Profits Get the Squeeze Between Rising Costs and Price Resistance

LIGHT as to what is happening to manufacturing and distributing profits and costs was furnished the Congressional Committee on the Economic Report on its recent Western tour by Alvin E. Hewitt, executive vice-president of the California Manufacturers Association, and Robert S. Kohn, president of the American Furniture Company, Denver retailer.

The former charged that the basic cause of high prices is directly attributable to the "government fiscal operators" who knew that the "only possible way to pay for or finance the cost of the war was through inflation." Because most of labor and management had increased production remarkably, the national cost of living has gone up only 60.6 per cent while per capita income for the nation has gone up 122.6 per cent.

Mr. Hewitt quoted William Green as saying that production of individual workers has advanced 20 per cent from 1939 to 1947, while BLS figures show that average hourly earnings for California manufacturing employees increased 95 per cent in the same period. A spot survey of California manufacturers showed that total labor costs, including the cost of fringe issues, increased an average of 111.75 per cent.

"Eliminating the minus figures of those who showed losses in 1939 or losses in their latest 1947 or 1946 fiscal period," said Mr. Hewitt, "this survey showed the 1939 average profit was 7.4 per cent as a percentage of the sales dollar and after taxes; and the latest 1947 or 1946 fiscal period profit on the same basis was 6.64 per cent."

As a means for increasing production so that prices will not continue to rise, Mr. Kohn recommended applying to the present situation the wartime system of granting accelerated amortization on income tax to manufacturers who increase their facilities. He said that determination of the additional facilities required and the worthiness of individuals or corporations to receive so-called "peacetime certificates of necessity" would have to be administered by a board of economic experts under the direction of the President.

Mr. Kohn reported that a careful study of manufacturers' prices on items either identical or closely comparable showed the following increase between June 30, 1941, and June 30, 1947.

| | *% Increase in Cost to Retailer* | *% Increase in Retail Price* |
|---|---|---|
| Furniture | 47.7 | 41.2 |
| Bedding | 55.8 | 48.0 |
| Floor Coverings | 29.1 | 28.6 |
| Appliances | 65.0 | 54.5 |

Ten representative Denver furniture retailers submitted confidential operating figures for the first six months of 1946 and 1947 to a firm of certified public accountants, who pooled the figures to get the following averages:

| | *% 1947 increase over 1946* | *% 1947 decrease over 1946* |
|---|---|---|
| Sales | 13.6 | |
| Net cost of merchandise | 21 | |
| Gross margins, in dollars | 2.5 | |
| Gross margins, in relation to sales | | 4 |
| Payrolls | 21.3 | |
| All other expenses | 5.1 | |
| Total expenses | 14 | |
| Net merchandising profit | | 19 |
| Net profit after taxes, in dollars | | 14.1 |
| Net profit, in relation to sales | | 2.3 |

Decline in profits, he said, was clearly traceable to absorption by the retailer of a substantial portion of the increases in wholesale prices, increases in markdowns and increased price resistance by consumers to furniture.


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DURANT MANUFACTURING COMPANY
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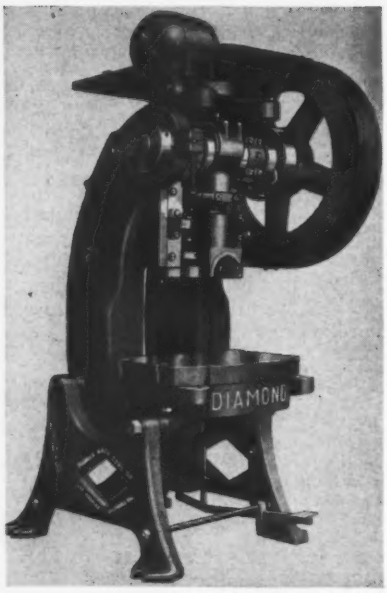
158 Orange Street, Providence 3, R. I.




# NEW METHODS, MATERIALS, EQUIPMENT

## That Will Help to Cut Your Production Costs

665

### No Fatigue Failures With Punch Press

A punch press designed to strain gauge analysis, is of the new plain type in 55 and 56-ton capacities, with open-back and inclinable construction, providing increased strength at points of maximum stress.

The strain gauge analysis employed in designing the Diamond line of punch presses has disclosed several interesting facts. With no increase in weight of main casting, frame strengths as high as five times rated capacity have been obtained.

Tests also show tie bars to be advantageous, but contrary to general opinion, excessive cinching is of no benefit. A snug adjustment, placing the tie rod in slight tension, provides satisfactory support.

A full report of the Diamond Strain Gauge tests on punch presses will be sent free in answer to all requests. Diamond Machine Tool Co., Los Angeles.

666

### New Line of Air-Powered Drills

A new line of air-powered hand drills featuring the straight and pistol grip types is declared to be of controllable speed regulation and rugged construction. Will operate at air pressures of 90 to 100 pounds. Air consumption is estimated at 12 cu. ft. per minute at drill speeds of 14,000 rpm.

Suited for all types of work in any shop or factory where low cost air power is available, the tools will facilitate job shop or full production work in metals, plastics, woods. Air-Speed Tool Co., Los Angeles, Calif.

667

### Safety First! Flameproof That Building

A colorless and odorless fire retardant is now on the market which is easy to apply and safe to use. Approved by the U. S. Navy, Division of Forestry, State of California, and city fire departments, this flameproofing method features one application only.

Three methods are used in applying this fire retardant: (1) spray method for lumber, buildings, etc.; (2) dip method; (3) sponge method, for small wooden or metal objects. Solution is made by dissolving one pound in a gallon of water. Solution is odorless and colorless, and wood surfaces may be stained or finished with other materials without change in appearance or durability. Flamhort Chemical Company, San Francisco 3, California.

668

### De-Reeling Tensions For Faster Coil Winding

Shop and field tests indicate that the new Pamarco de-reeling tension eliminates 95 per cent of all wire breakage caused by uneven tension; greatly increases winding machine output and practically eliminates defective coils resulting from damaged insulation, crossed or spaced turns and pile-ups.

These tensions are newly designed for faster coil winding; to permit more simultaneous winds; to eliminate wire breakage and insulation damage. Manufactured by Paper Machinery and Research, Inc., Roselle, N. J.

669

### Automatic Rip Saw Feed

Radial saws can now be used for fast, safe and automatic rip-sawing with a new device called the Radiall Ripp Automatic Rip Feed. It clamps to the rear of the radial saw table, making one unit, yet it does not interfere with the normal operation of the saw.

Electric Saw and Tool Co., San Francisco, manufacturers, emphasize that the new device saves time because the operator need only lay the lumber on the extension conveyor table and while lumber is being fed automatically, he gets the next piece ready. It also cuts the danger of accidents by keeping the operator's fingers away from whirling saw blades.

It will handle lumber up to six in. thick.

670

### New Light Weight Aggregate

Lite-Rock, a new light weight aggregate, which is produced by expansively burning shale or clay in a patented manufacturing process, is now being used in concrete construction.

This new aggregate is said to be a third to a half lighter than the usual sand and gravel used in concrete construction. In manufacture of the aggregate, clay and shale are reduced to a proper fineness, then introduced into a 58-foot rotary kiln of substantially the same type used in making Portland cement and expansively burned at a temperature in excess of 2,000 de-

grees. The resulting clinker is cooled, crushed and graded to various aggregate sizes.

In the process the shale expands to about double its previous size, with a cellular nature said to make it effective both as a building and insulating material. Northwest Aggregate, Inc., Portland.

671

### Crane Can Travel 33 Miles Per Hour

By utilizing the carrier engine and automotive propelling and steering mechanism for traveling to the job, the high speed Moto-Crane is able to run at speeds up to 33 miles per hour. This crane features dual control, combining the between-jobs mobility of the high speed Moto-Crane and all of the on-the-job advantages of self-propelled units, according to the manufacturer.

Once at the scene, the machine can be converted into a self-propelled unit within five minutes with on-the-job travel (one to seven miles per hour) powered by the turntable engine only. When the job has been completed, a five-minute adjustment re-converts the machine to a highly mobile Moto-Crane ready for highway and off-the-road travel. The Thew Shovel Co., Lorain, Ohio.

672

### New Mill For Cast Iron Production

Just introduced is the "Axial Face Kennamill" designed especially for production milling of cast iron, and suitable for light to medium cuts on solid or cored castings. This new mill incorporates the advantages of solid blade face mills with maximum number of blades.

Can be mounted on all common spindles with bolt circle provided to order. Five sizes available: 6-in., 8-in., 10-in., 12-in. and 14-in. Kennametal, Inc., Latrobe, Pa.

673

### Booster Fans For Paint Spray Booths

Now available in five sizes is this series of booster fans, for use in paint spray booths, for removal of fumes, and where there is excessive heat. Construction is said to be rugged and operation quiet for units handling such large volumes of air. Fan shafts and motors are ball bearing mounted. Designed for either vertical or horizontal operation. Chelsea Fan & Blower Co., Inc., Irvington, N. J.

674

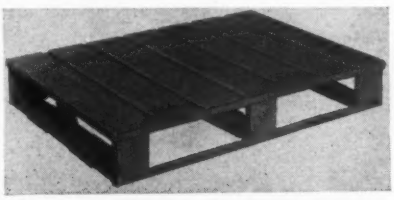
### Power and Action In Heavy Duty Clamp

The "Ram," an extra heavy duty plunger clamp is said to be capable of exerting over 2,500 pounds normal pressure in tests. An outstanding feature of this clamp is that the handle is down when the clamp is closed, which is desirable on machines or fixtures where space is restricted. Further, the operating motion is downward and away from the work; the heavily loaded handle provides split-second closing as merely tipping the lever will close the clamp with considerable pressure. Detroit Stamping Co., Detroit.

675

### Four-Way Pallet For Lift Trucks

An all-steel four-way pallet constructed of corrugated rolled steel and welded throughout for rigidity and endurance, is the new pallet from Palmer-Shile. Pallet features beveled edges on two sides to permit trucks to ride over easily, and has specially rolled channel steel face, with center brace for extra weight loads. Designed for use with power lift and hand trucks. Palmer-Shile Co., Detroit, Mich.



676

### New Stitcher For Manufacturing

"Steelbinder" is the name of the new stitchers for use in box making, packaging, assembling, ticketing and manufacturing. These new stitchers handle a wide range of wire sizes, and insert 150 to 350 staples per minute, with a micro switch attachment automatically controlling spacing between stitches. Because of its speed a Steelbinder can be inserted in the production line to close cartons automatically as they come off the conveyor, more effectively and more economically than hand-applied gum tape.

Further increasing their versatility is their ability to fasten such additional materials as leather to leather, leather to wood, cloth to wood, metal to metal, metal to wood, metal to plastics, or any combination of the above materials. A. J. Gerrard & Co., Chicago 1.

677

### Electronic Rectifier For Small DC Motors

A new electronic rectifier, especially useful for small DC motors, magnetic chucks or applications where direct current is required, will replace motor generator sets where power from 750 to 2,000 watts is desired. The voltage is 115/230 DC - 115/230/460 AC.

The rectifier is said to feature better ventilation, easier accessibility to parts and simplified design. The control panel tilts forward for servicing. Mounted on the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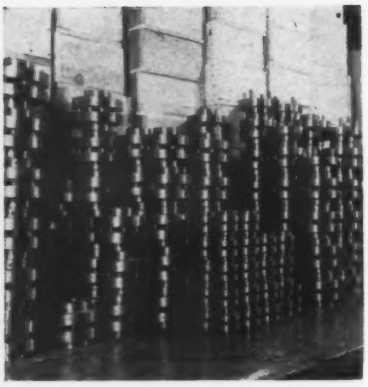

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√ R. & J. Dick Co., San Francisco, Calif.
√ Gould Hardware & Machinery Co., San Diego, Calif.
√ Hendrie & Bolthoff, Denver, Colo.
√ Industrial Supply Co., Albuquerque, New Mexico
√ Metropolitan Supply Co., Los Angeles, Calif.
√ McConkey-Docker & Co., Phoenix, Arizona
√ Northwest Chains & Sprockets, Seattle, Wash.
√ Northwest Chains & Sprockets, Portland, Oregon
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# New Methods, Materials, Equipment

*(Continued from page 97)*

front panel are the main line switch, line fuses and time-delay relay which prevents operation of the power tubes until the filaments are properly heated. On the back of the control panel are mounted the two power tubes and terminal strip where all connections are made. A red light on the door shows when the unit is energized. The Weltronic Company, Dept. K., Detroit 19, Mich.

678

### Continuous Mixer Eliminates Batch Mixing

Equipment which provides a means for converting batch mixing into a single, continuous operation under accurate, uniform control, is the claim of the manufacturers of the new Roto-Feed continuous mixer. Said to handle products ranging from the viscosity and density of bread dough to liquids as fluid as water. When the product has undergone the mixing cycle, it may be directed to any subsequent processing equipment.

According to the manufacturer, all this occurs continuously. It is only necessary to proportion the desired ingredients into

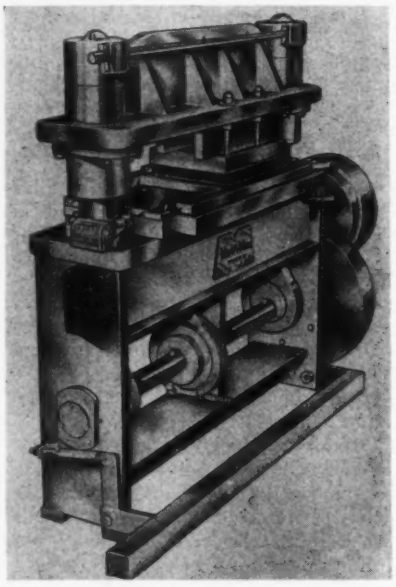
the Roto-Feed, and they emerge thoroughly mixed at a controlled rate of five to 1,000 gallons per hour. Marco Co., Wilmington, Del.

679

### Only One Operator Needed For Press

The Multi-Max press, a 30-ton combination shear and press is mechanically operated. It shears, blanks, notches, punches, perforates, slots, pierces, lances, bends and forms sheet metal parts in single or multiple units, with one operator. It needs no special foundation, has no overhanging parts and requires only 36 in. to 75 in. floor space.

Because of its small compact size, it is easily picked up and moved in and out of the production line as needed. Finished parts are fabricated right at the point of assembly in required amounts, thus saving



long runs, large inventories of parts, handling and stacking costs and valuable floor space for storage. Designed primarily for this "plug-in" advantage and unlike any other press, the Multi-Max may be taken to the work rather than depending upon the work being brought to it. Parker Manufacturing Co., Santa Monica, Calif.

680

### Hand Truck Makes One Man Work For Six

One block man can do the work of six block men, with the hand truck with forks to pick up and transport six concrete blocks at a time, according to the manufacturer. With one block used as a pallet, other materials can likewise be handled.

When blocks are removed from pallets they are stacked on the floor, six high, with bottom block face down. The block man picks them up for piling in yard or on transport trucks. Each time thereafter, the six blocks are handled with the block man, to the job and on the job. R. S. Reed Corp., Three Rivers, Michigan.

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# HELPFUL LITERATURE

## For the plant operator who wants to keep informed

2261

**Feedrail Issues New Catalog**—Electric Feedrail has issued a new catalog showing its overhead trolley system and many of its applications to such items as portable tools, machine tools, cutting tables, sewing machines, cranes and hoists. Well illustrated. *Feedrail Corp., New York 7, N. Y.*

2262

**Steels Described**—Jessop stainless steels and heat-resisting steels are described in a new booklet just issued by Jessop Steel Co. The chemical analyses, physical properties, corrosion resistance rating, and fabricating properties of standard types of steel have been included. *Jessop Steel Co., Washington, Pa.*

2263

**Get Your Share of Government Business**—To help more businessmen get their share of sales in the $5,000,000,000 annual government market, the N. Y. Journal of Commerce has just issued a new 32-page booklet designed to take the mystery out of bidding and contract procedures. "How to Sell to the Government" may be obtained for 50c from the *Journal of Commerce, New York 15, N. Y.*

2264

**New Steel Listing** — Radically changing its listing techniques, Allegheny Ludlum Steel Corp. has issued a new list of tool and high speed steel warehouse stocks which not only indicates types, shapes and sizes available, but also shows the exact location of each item in stock, so the buyer can determine the nearest source of supply as he makes his selection. *Allegheny Ludlum Steel Corp., Pittsburgh 22, Pennsylvania.*

2265

**What Is Tenite?**—Tennessee Eastmen Corp. has just revised its book, "Tenite," a handsome 32-page brochure in full color designed to tell what Tenite is, how it is made, and what it is used for. In brief, Tenite is the company's cellulose ester thermoplastics, a versatile material which has found uses in the auto industry, aviation, electrical insulation, home appliance, architecture, tools and sporting goods, among others. *Tennessee Eastmen Corp., Kingsport, Tenn.*

2266

**What You Should Know About Taxes**—"What Every Business Man Should Know About His Taxes" is a new booklet issued by the National Accounting Service of Lynbrook, Long Island, N. Y., designed to tell small businessmen how to avoid overpayment of income taxes. It contains facts about taxes, explains in detail how to eliminate bookkeeping and tax headaches.

2267

**Materials Handling Roster**—A new 30-page membership roster of the Material Handling Association of Southern California for the fiscal year 1947-1948 has just been released by the association. It contains, in addition to an alphabetical section listing the member firms along with the companies they represent, a "Product Classification" section which provides a valuable and useful source of buying information to those interested in materials handling equipment. Copies can be had by writing: *Material Handling Association of Southern California, Los Angeles 5, Calif.*

2268

**Rapidraulic Jr. Catalog**—Claimed to increase production at a low operating cost is the Rapidraulic, Junior, an hydraulic unit particularly designed for clamping and similar application. The new catalog just published contains installation data and specification information in detailed drawings. Operating instructions and price list also included. *John S. Barnes Corp., Rockford, Ill.*

2269

**Pre-engineered: Stock Texrope Drive Catalog** — One hundred and forty-four pages of an indexed catalog for pre-engineered stock Texrope drives which simplifies drive selection so persons untrained in V-belt engineering can readily specify proper drives, is now available. Texrope pre-engineering is the calculation and listing of a stock Texrope drive to meet a certain set of conditions, including horse-power, motor speed, ratio and overload factor. Wherever the same set of conditions exists, the same drive can be used with full assurance that it is properly suited as it would be if individually engineered for each separate application. *Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.*

2270

**Sea-Going Hose Described** — A four-page loose-leaf section on oil hose for cargo handling features a combination suction and discharge hose. This is said to be one of the most highly specialized products of the rubber industry, since the service conditions in transporting oils and gasolines are extremely severe. Types described include dock loading, sea loading and hose for barge service, as well as the fittings to go with them. Data on each type is included. *B. F. Goodrich Co., Akron, Ohio.*

2271

**Information on Critical Temperature Monitor**—A slick paper booklet explaining in detail the working of the Edison Critical Temperature thermometer. The release indicates through illustration the monitoring of critical temperatures of bearings. *Thomas A. Edison, Inc., West Orange, N. J.*

2272

**Tropical Deterioration Eliminated** — American wartime research for the prevention of deterioration of optical instruments, textiles, synthetic resins, plastics, photographic equipment and other material in tropical climates is summarized in a report now on sale by the Office of Technical Services, Department of Commerce. The report explains that in tropical climates equipment and supplies are exposed to heavy rainfall and high relative humidity. These factors alone effect the performance and serviceability of instruments and in addition furnish ideal conditions for the growth of micro-organisms (fungi, actinomycetes, and bacteria) which collectively attack a wide range of basic materials. Several of the detailed reports are available from OTS, and a list of reports—Bibliography of Reports on Deterioration—is available free of charge. Orders for the summary report (PB-81801: *Tropical deterioration of equipment and materials;* 91 pages mimeographed, $3.50) should be addressed to the *Office of Technical Services, Department of Commerce, Washington 25, D. C.,* and should be accompanied by check or money order, payable to the Treasurer of the United States.

2273

**Read the "Hole" Story**—The "Hole" Story is the title of a brochure describing the use of single and multiple-cut rotary hole saws for cutting of holes, disks, and circular grooves in sheet metals, wood, plastics, wallboard, plywood, fibre, and other materials. The brochure discribes a complete line of single cut Misener rotary hole saws embracing over 100 fractional diameter sizes from ⅝ in. up to 15 in. and in blade depths of 1 in, 1½ in, 2¼ in. and 2¾ in. *Misener Mfg. Co., Inc., Syracuse, N. Y.*

2274

**Anniversary of Soybean Processing**—"The Wonder Bean" is an interesting booklet which relates the story of the first quarter century of soybean processing operations in the United States. The development of soybean farming, new products, new markets, and more efficient processing methods is featured in the publication, which is available from the *A. E. Staley Mfg. Co., Decatur, Illinois.*

2275

**Magnetic Pulley Bulletin**—This bulletin describes the new Pema-Pulley, a permanent alnico magnetic head pulley for belt conveyor systems, which is used for the removal of tramp iron, for purification of non-magnetic substances and for concentration of magnetic materials. It includes dimensions, capacities, weights and other specifications and describes the design of the unit. Copies may be secured from *Dings Magnetic Separator Co., Milwaukee 14, Wis.*


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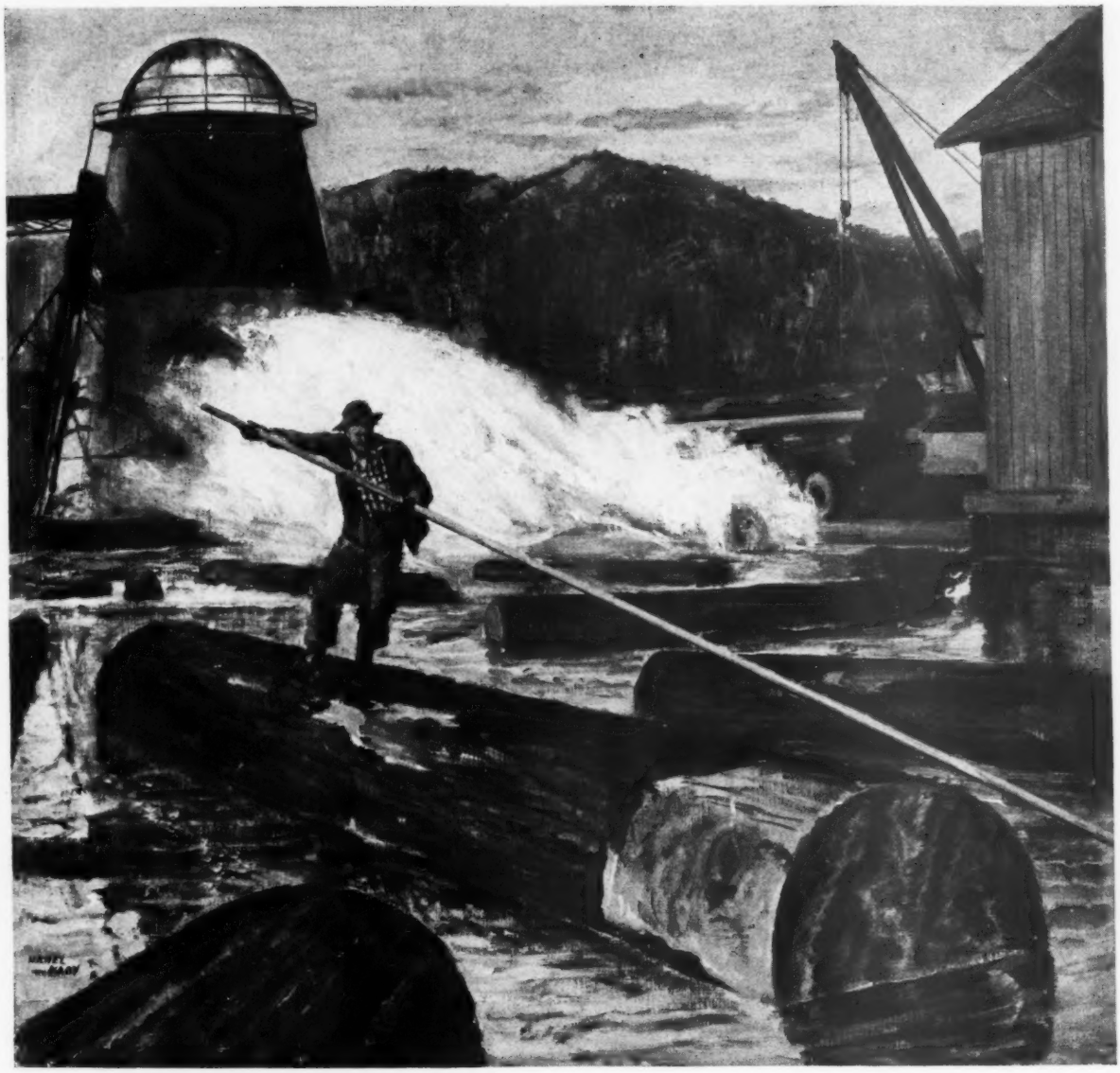

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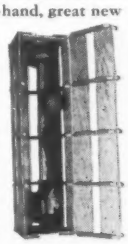

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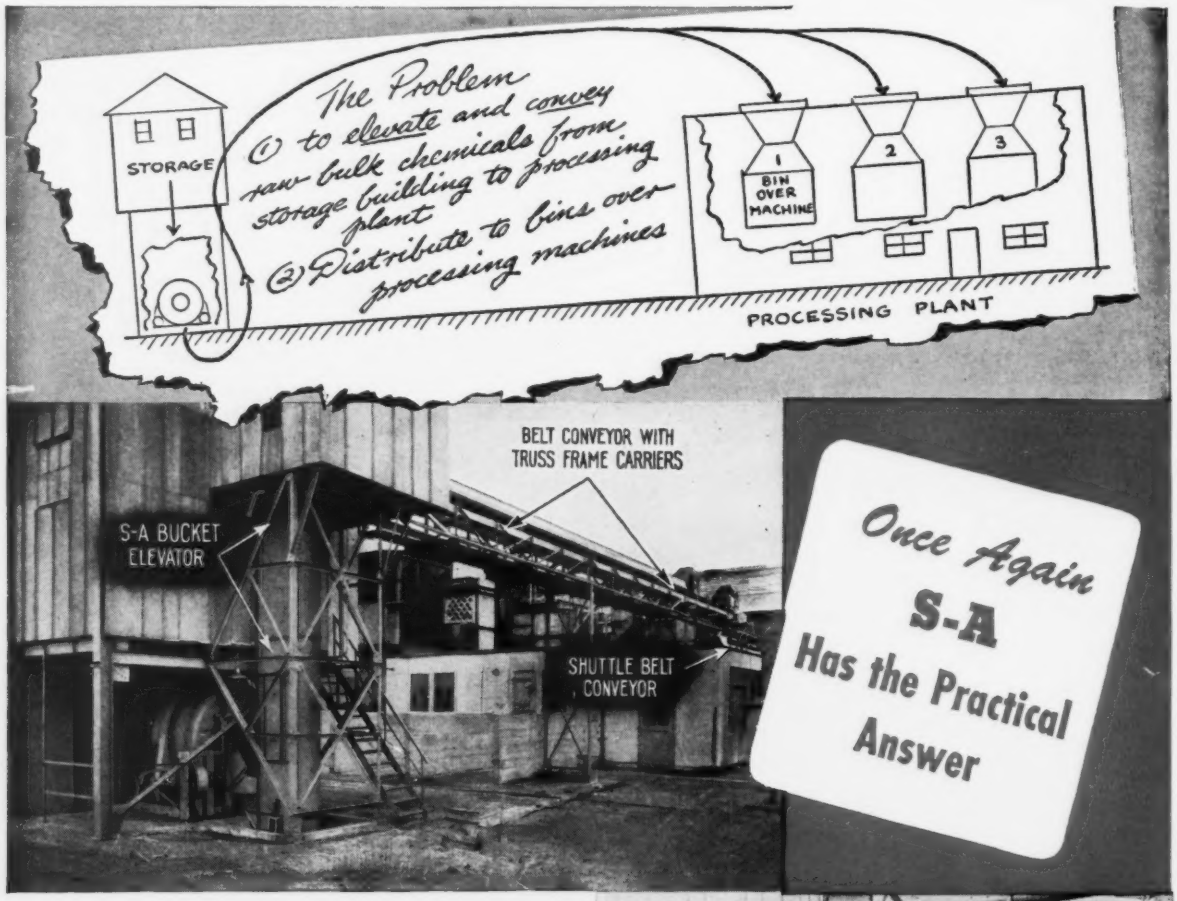
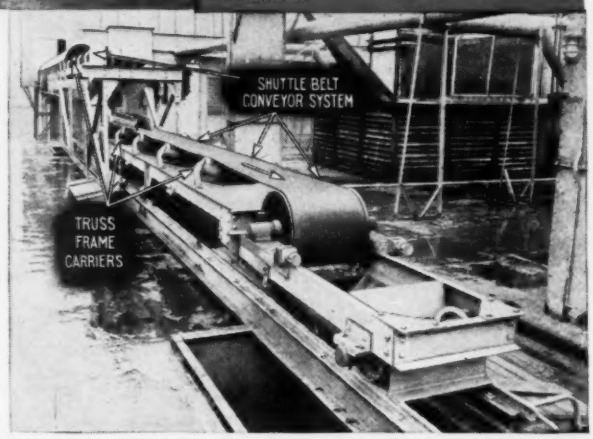



**Triple play combination, left to right—Bucket Elevator *up* to Stationary Belt Conveyor, *over* to Shuttle Belt Conveyor, and *thru* roof hatches to processing machines.**

As usual, the ability to find the right solution, plus the right equipment, resulted in the right installation for the job.

An S-A Bucket Elevator lifts the material from mixer to stationary Belt Conveyor, which carries to a Shuttle Belt Conveyor for distribution to any one of several processing machines.

The use of the S-A Shuttle Belt Conveyor, shown, permits volume distribution to several machines without a tripper and by a conveyor unit of but half the length of the distribution range . . . How? . . . The entire Shuttle Conveyor can be rolled to either side of the feed point, one end over desired discharge, and the carrying belt operated in that direction . . . another example of S-A simplicity and economy.




**The comparatively short Shuttle Belt Conveyor has been rolled to one side of feed point, one end spotted over hatch at right, and carrying belt operated toward that end. Hatch covers removed to show receiving hoppers.**

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